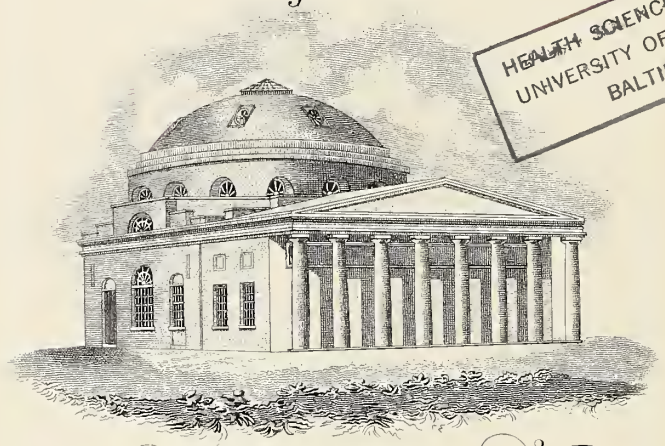
MAR 2 8 1952

LIBRARY
OF THE
School of Medicine



University of Maryland

HEALTH SCIENCES LIBRARY
UNIVERSITY OF MARYLAND
BALTIMORE

Digitized by the Internet Archive
in 2015

https://archive.org/details/californiamedici7416cali

California MEDICINE

School of Medicine Library
University of Maryland
Baltimore, Maryland

JANUARY 1951

PRACTICAL ASPECTS OF THE LOW SODIUM DIET, Maurice Sokolow, Jean Addis, Roberta Bramham, Nancy Hooper, John Luetscher, Kalman Klinghoffer, Arthur Selzer, and Esther Sippel, San Francisco 1

CONSERVATIVE MANAGEMENT OF THIRD TRIMESTER BLEEDING, Edmund W. Overstreet and Herbert F. Traut, San Francisco 8

PULMONARY SEGMENTAL RESECTION OF SOLITARY LESIONS OF DOUBTFUL CHARACTER, Beatty H. Ramsay, Los Angeles 14

UNDECYLENIC ACID IN THE TREATMENT OF PSORIASIS AND NEURODERMATITIS, Lawrence M. Nelson, Santa Barbara 17

A DIVERTING MEDICALLY USEFUL LIFE HOBBY—Imitation, Self-Exploration and Self-Experimentation in the Practice of Medicine, C. M. Cooper, San Francisco 18

ROENTGEN DIAGNOSIS OF INTRA-ABDOMINAL HERNIA, A. Justin Williams and Fred L. Hewes, San Francisco 22

THE PROBLEM OF PROGNOSIS IN PANCREATITIS, J. Minton Meherin and John K. Barbieri, San Francisco 29

STRUMA LYMPHOMATOSA (HASHIMOTO'S DISEASE), Paul M. Walstad, Napa, Claudius Y. Gates and Everett Carlson, San Francisco 31

AMEBIASIS MASQUERADING AS APPENDICITIS, Stephen J. Stempien, Donald M. Marcus and Raymond W. Kelso, Jr., Long Beach 36

CATARACT EXTRACTION WITH THE ERISOPHAKE, Harold B. Alexander, Pasadena 38

CASE REPORTS:

Anal Herpes with Generalized Varicelliform Eruption, C. I. Hamilton, Jr., San Antonio, Texas, and E. K. Perkins, San Francisco 41

Rat Bite Fever—Response to Streptomycin Therapy, William P. Frank and Albert G. Bower, Los Angeles 42

EDITORIALS 43

CALIFORNIA MEDICAL ASSOCIATION 47

NEWS AND NOTES 73

BOOK REVIEWS 75

C.M.A. Annual Meeting, May 13-16, 1951, Los Angeles

OFFICIAL JOURNAL
OF THE CALIFORNIA MEDICAL ASSOCIATION

74 NUMBER 1

COME AND GET IT!

A new formula

for nourishment!

Delicious!

Concentrated!

Delmor®

nutrient powder

SHARP & DOHME

Each 100 Gm. of DELMOR® contains:

PROTEIN	(N x 6.25) derived from milk and soybean	50 Gm
CARBOHYDRATE	derived from cane, milk and grain sugars and soybean	20 Gm.
MINERALS	Calcium	600 mg.
	Phosphorus	440 mg.
	Iron	15 mg.
VITAMINS	Thiamine HCl (vitamin B_1)	10 mg.
	Riboflavin (vitamin B_2)	10 mg.
	Pyridoxine HCl (vitamin B_6)	1 mg.
	Calcium pantothenate	5 mg.
	Niacinamide	100 mg.
	Ascorbic acid (vitamin C)	100 mg.
	Vitamin A	4,000 U.S.P. units
	Vitamin D	400 U.S.P. units
LIVER	Whole liver substance, together with other natural factors of the vitamin B comp ex, including vitamin B_{12}	1 Gm.

DELMOR is a new and exceptionally useful formula for supplementing presurgical, obstetric, or convalescent diets with highest quality whole protein and other essential nutrients. A deliciously flavored powder, DELMOR may be given cooked or uncooked, with any kind of food, or between meals. Supplied in 1-lb. and 5-lb. bottles. Literature and recipes on request.

Sharp & Dohme, Philadelphia 1, Pa.

UNIVERSITY OF MARYLAND
LIBRARY
Founded 1813
SCHOOL OF MEDICINE

Topical therapy of localized infections with the newest of the broad-spectrum antibiotics

CRYSTALLINE

Terramycin

HYDROCHLORIDE

for topical use only

OINTMENT

An ointment of Crystalline Terramycin Hydrochloride utilizing a petrolatum base. Each Gm. of ointment provides 30 mg. of Terramycin

indicated for:
- superficial pyogenic infections
- pyoderma
- pustular dermatitis
- minor wound infections
- infections associated with minor burns
- prophylaxis

particularly valuable in mixed infections

Crystalline Terramycin Hydrochloride Ointment is well tolerated, and may be used safely for long periods. In severe local infections which may become systemic, the ointment should be used as an adjunct to oral therapy with Crystalline Terramycin Hydrochloride Capsules.

Crystalline Terramycin Hydrochloride Ointment is stable; it may be stored at room temperature for 12 months without significant loss of potency.

Supplied: Tubes containing 1 oz. (28.4 Gm.)

Antibiotic Division **Pfizer** CHAS. PFIZER & CO., INC., *BROOKLYN 6, N. Y.*

BIRTCHER

BLENDTOME

Portable

Electrosurgical Unit

. . . a MODERN LOW-COST SURGICAL UNIT for all minor and various major surgery.

The Birtcher BLENDTOME is a surprisingly practical unit for office surgery. With this lightweight unit, you have *all* the electrosurgical procedures of major units—electro excision, desiccation, fulguration and coagulation. While not meant to be compared to a large hospital unit, the BLENDTOME has been successfully used in many TUR cases. Such facility indicates the brilliant performance of the BLENDTOME.

ALL 4 BASIC SURGICAL CURRENTS

1. *Tube Generated Cutting Current.*
2. *Spark-Gap Generated Coagulation Current.*
3. *A controlled mixed blend of both above currents on selection.*
4. *Mono-polar Oudin Desiccation-Fulguration Current.*

Never before has a surgical unit of such performance been offered at the low price of the Blendtome.

Write "Blendtome Folder" on your prescription blank or clip your letter head to this advertisement. Reprint of electrosurgical technic mailed free on request. Please indicate your specialty.

THE BIRTCHER CORPORATION
5087 Huntington Drive Los Angeles 32, Calif.

To: The BIRTCHER Corp., Dept. CM 1-51
5087 Huntington Dr., Los Angeles 32, Calif.

Please send me, by return mail, free brochure on the portable Blendtome Electrosurgical Unit.

Dr._____

Street_____

City_____State_____

NUTRITION IS ASSOCIATED WITH WELL-BEING OF BABIES

Nutrition research has been a factor in child health and a contributor to the increase in life expectancy, according to Dr. Philip C. Jeans, professor of pediatrics in the College of Medicine, State University of Iowa, Iowa City, and member of the American Medical Association's Council on Foods and Nutrition.

(A baby born in 1900 had an expected life span of 49.2 years; one born today has an expectancy of about 68 years.)

Writing in a recent issue of the *American Journal of Diseases of Children*, a publication of the American Medical Association, Dr. Jeans pointed out that nutrition knowledge is increasing at an accelerated rate and that "we cannot even guess what tomorrow will bring."

He stressed particularly the application of nutrition research to pediatrics, which deals with prevention and treatment of diseases of children.

"Our knowledge includes a better understanding of the functions of minerals, vitamins, and amino acids and an increased knowledge of the relation of food to health," he said.

"Other discoveries are imminent. For example, general availability of fat emulsions for use in parenteral feeding is just around the corner."

He said that one long-term trend of nutrition research on pediatric practice has been a more rapid growth of infants and children. He added:

"Body length is significantly greater now than it was 30 years ago, and it has become necessary to change our concept of normal growth. Rickets, scurvy and nutritional anemia, once so common, are now almost rare. Babies with marasmus formerly were common in our hospital wards, but now they are exceptionally rare. The mortality rate among prematurely born babies has been significantly reduced.

"These and other improvements are attributable to changed concepts as to what constitutes an adequate diet for infants and children.

"One can list many contrasts in the past 50 years. Vitamin C was unknown 35 years ago, and the feeding of orange juice to babies was not routine until some years later. A similar statement may be made for vitamin D.

"We now recognize that iron and iron-containing foods are necessary additions to the diet in early infancy and that the thiamine intake of young babies is borderline until thiamine-containing foods are added. Babies are now fed much more abundantly than formerly.

"Another factor that affects the health and welfare of babies is the diet of the mothers during pregnancy. It has been found that good nutrition of the mother makes childbearing less hazardous for both the mother and the baby."

He added that poor maternal diet is associated with complications of pregnancy and with illnesses of babies in early life.

ADRENALIN®

Circulatory stimulant, vasoconstrictor, resuscitant, and hemostatic, this pure crystalline hormone is one of the truly basic drugs — an invaluable aid in office, in hospital, and in clinic. It is an important adjunct in local anesthesia, valuable in arresting superficial hemorrhage, and a standby for decongestion of engorged mucous membranes.

ADRENALIN is available as ADRENALIN CHLORIDE SOLUTION 1:1000, ADRENALIN CHLORIDE SOLUTION 1:100, ADRENALIN IN OIL 1:500 and in a variety of forms to meet all medical and surgical requirements.

OMPANY

GOVERNOR DEWEY JOINS DR. HILLEBOE IN CRITICISM OF U. S. FOR CIVIL DEFENSE DELAYS

Another New York state official—this time Governor Dewey — has criticized the federal government for delaying the start of medical stockpiling. Governor Dewey, in approving allocation of $500,000 in state funds for this purpose, observed that the federal government apparently had neither plans nor intention of purchasing such supplies and equipment.

A few weeks ago the same views were expressed by Dr. Herman Hilleboe, New York state health officer. Representatives from New York and National Security Resources Board are expected to meet soon in an effort to agree on respective responsibilities in the field of civil defense.

NSRB's explanation to Governor Dewey's charge is that it still has neither authority nor money to start buying medical supplies, to be stored regionally for use in case of atomic bombing or other disaster. A long-awaited handbook on medical preparations for civil defense still has not gone to the printer from NSRB. It is expected to spell out more definitely the federal government's plan for medical stockpiling.

Joseph S. Lawrence, M.D.,
Director, Washington Office, A.M.A.

ALUM ROCK SANATORIUM
SAN JOSE, CALIFORNIA

Telephone Clayburn 8-4921

A Non-Profit Sanatorium for the treatment of tuberculosis and other diseases of the chest.

MEDICAL DIRECTOR
Buford H. Wardrip, M.D.
ASSOC. MEDICAL DIRECTOR
C. Gerald Scarborough, M.D.

VISITING MEDICAL STAFF
Harold Guyon Trimble, M.D., Oakland
Cabot Brown, M.D., San Francisco
Gerald L. Crenshaw, M.D., Oakland
J. Lloyd Eaton, M.D., Oakland
Ina Gourley, M.D., Oakland
H. Corwin Hinshaw, M.D., San Francisco
Glenroy N. Pierce, M.D., San Francisco
James Robert Wood, M.D., Oakland

COOK COUNTY
Graduate School of Medicine
ANNOUNCES CONTINUOUS COURSES

SURGERY—Intensive Course in Surgical Technic, Two Weeks, starting January 22, February 5, February 19.
Surgical Technic, Surgical Anatomy & Clinical Surgery, Four Weeks, starting February 5, March 5.
Surgical Anatomy & Clinical Surgery, Two Weeks, starting February 19, March 19.
Surgery of Colon & Rectum, One Week, starting March 5.
Basic Principles in General Surgery, Two Weeks, starting April 2.
Gallbladder Surgery, Ten Hours, starting April 23.
Fractures and Traumatic Surgery, Two Weeks, starting March 19.

GYNECOLOGY—Intensive Course, Two Weeks, starting February 19.
Vaginal Approach to Pelvic Surgery, One Week, starting March 5.

OBSTETRICS—Intensive Course, Two Weeks starting March 5.

MEDICINE—Intensive General Course, Two Weeks, starting April 23.
Gastroenterology, Two Weeks, starting May 14.
Gastroscopy, Two Weeks, starting March 5.
Electrocardiography & Heart Disease, Two Weeks, starting March 19.

PEDIATRICS—Intensive Course, Two Weeks, starting April 2.
Informal Clinical Course every two weeks.

UROLOGY—Intensive Course, Two Weeks, starting April 16.
Cystoscopy, Ten Day Practical Course, every two weeks.

GENERAL, INTENSIVE AND SPECIAL COURSES IN ALL BRANCHES OF MEDICINE, SURGERY AND THE SPECIALTIES

TEACHING FACULTY—ATTENDING STAFF OF COOK COUNTY HOSPITAL

Address: REGISTRAR, 427 South Honore Street
Chicago 12, Illinois

ACCIDENT · HOSPITAL · SICKNESS
INSURANCE
FOR PHYSICIANS, SURGEONS, DENTISTS EXCLUSIVELY

ALL PREMIUMS COME FROM — PHYSICIANS SURGEONS DENTISTS — ALL CLAIMS GO TO

$ 5,000.00 accidental death	$ 8.00
$25.00 weekly indemnity, accident and sickness	Quarterly
$10,000.00 accidental death	$16.00
$50.00 weekly indemnity, accident and sickness	Quarterly
$15,000.00 accidental death	$24.00
$75.00 weekly indemnity, accident and sickness	Quarterly
$20,000.00 accidental death	$32.00
$100.00 weekly indemnity, accident and sickness	Quarterly

Cost has never exceeded amounts shown

ALSO HOSPITAL EXPENSE FOR MEMBERS' WIVES AND CHILDREN

85c out of each $1.00 gross income used for members' benefits

$3,000,000.00 *Invested Assets*
$15,000,000.00 *Paid for Claims*

$200,000.00 deposited with State of Nebraska for protection of our members

Disability need not be incurred in line of duty—benefits from the beginning day of disability

PHYSICIANS CASUALTY ASSOCIATION
PHYSICIANS HEALTH ASSOCIATION

46 years under the same management
400 First National Bank Bldg., Omaha 2, Nebraska

how the Paredrine in Par-Pen helps its penicillin fight intranasal infection

Council-accepted Paredrine Hydrobromide produces rapid and prolonged shrinkage of nasal mucosa. The nasal passages are opened so that the penicillin can "get through" to the infected areas. Bacteriostasis is thereby facilitated.

Paredrine does not break down the penicillin. Par-Pen remains at full therapeutic potency for an entire week—even when kept at room temperature.

Par-Pen contains crystalline potassium penicillin G, 5000 units per cc.; Paredrine Hydrobromide (hydroxyamphetamine hydrobromide, S.K.F.), 1%; in a specially buffered isotonic aqueous solution. Packaged in ½ fl. oz. bottles.

Smith, Kline & French Laboratories, Philadelphia

Par-Pen

the penicillin-vasoconstrictor for intranasal use

'Paredrine' & 'Par-Pen' T.M. Reg. U.S. Pat. Off.

NEW ZEALAND'S "FREE MEDICINE" SCHEME EXPERIENCING DIFFICULTIES

After 12 years of operation, New Zealand's widely hailed "social security" medical plan is collapsing under its own weight, a regular correspondent of the *Journal of the American Medical Association* reports.

Writing from Brisbane, Australia, for a recent issue of the *Journal*, he cited the annual report of Dr. Duncan Cook, director of clinical services, to the New Zealand Parliament. In that report, Dr. Cook said:

"Increases in the cost of general medical services and pharmaceutical supplies have been of such magnitude as to lead to serious misgivings as to whether state medical insurance against sickness is practicable or whether the best method of payment for services has been adopted."

Proponents of socialized medicine in this country have been pointing to the New Zealand program as an example of what government medicine can do.

The *Journal* correspondent said that in 1938 after a period of economic depression, the people of New Zealand welcomed the scheme, "with its free medicine, free hospitalization and nominal payments for medical attendance."

He added: "But the original humanitarian concept has become a political football. Year by year benefits have been increased as a bait for the electors, until today the cost of social security is the

(Continued on Page 28)

The Alexander Sanatorium, Inc.

Situated in the Foothills of
BELMONT, CALIFORNIA

Specialized care of Convalescents; also NERVOUS, MENTAL and ALCOHOLIC Patients.

Experienced Staff for the application of INSULIN and ELECTRIC SHOCK Therapies and for the CONDITIONED REFLEX TREATMENT of ALCOHOLISM.

Recognized by the American Medical Association; Member of Association of Private Mental Hospitals and of the Western Hospital Association.

MRS. A. S. ALEXANDER, *President* Telephone: LYtell 3-2143

Fresh Fuel...

UNTIL her physician can observe and treat her symptoms, many a woman, even today, faces the failing fires of the menopause with confusion . . .

Physicians who are no longer satisfied with the limited action of replacement therapy alone, are electing to use a MORE COMPREHENSIVE TREATMENT for menopausal disturbances. Specifically designed for this purpose, Tablet Phen-Orivan, Dorsey provides, in addition to estrogenic substances:

Thyroid to stimulate metabolism and promote a feeling of well being; phenobarbital and hyoscyamus to hasten relief by sedative and antispasmodic action.

EACH TABLET PHEN-ORIVAN, DORSEY CONTAINS:

Phenabarbital.....¼ gr.
Thyroid.....⅛ gr.
Ext. Hyoscyamus.....⅛ gr.
Estrogenic substances from pregnant mares' urine, in their naturally occurring, water-soluble, conjugated form, expressed as sodium estrone sulfate.....0.25 mg.

TABLET **PHEN-ORIVAN, Dorsey**

THE SMITH-DORSEY COMPANY, LINCOLN, NEBRASKA • BRANCHES AT LOS ANGELES AND DALLAS

Patient Under Treatment

FOR URINARY TRACT INFECTION

ENJOYS

Gratifying Relief

from distressing symptoms

The action of orally administered Pyridium often enables patients to carry on without interruption of normal pursuits throughout the course of specific treatment of uncomplicated cystitis, urethritis, and pyelonephritis.

This effective urinary analgesic relieves distressing symptoms such as urinary frequency and pain and burning on urination, without systemic sedation or narcotic action.

Pyridium is the trade-mark of Nepera Chemical Co., Inc., successor to Pyridium Corporation, for its brand of phenylazo-diamino-pyridine HCl. Merck & Co., Inc. sole distributor in the United States.

The complete story of Pyridium and its clinical uses is available upon request.

Pyridium®

(Brand of phenylazo-diamino-pyridine HCl)

MERCK & CO., INC. *Manufacturing Chemists* RAHWAY, NEW JERSEY

In Canada: Merck & Co. Limited—Montreal, Que.

NEW ZEALAND'S "FREE MEDICINE" SCHEME EXPERIENCING DIFFICULTIES

(Continued from Page 24)

biggest item in the national budget. In its last term of office last year, the labor government appealed to the New Zealand branch of the British Medical Association to stop the abuses and arrest the drift. One of the problems concerns 'shopping.' If the doctor does not satisfy the patient in what he feels are his prescription needs, he will go to a more obliging doctor. The government is now considering a nominal fee for each prescription, but the major problem remains to be solved."

Dr. Cook in his report to Parliament said that "unless the desired reforms made possible by the new legislation last session provide satisfactory remedies, the present system of social security medicine in New Zealand will have to be either modified considerably or replaced by a system more readily controllable."

- Read the advertising pages.
- Show your interest by correspondence and patronage.
- Support those firms who advertise in your state Journal.

THE NEW YORK POLYCLINIC

MEDICAL SCHOOL AND HOSPITAL
(Organized 1881)
(The Pioneer Post-Graduate Medical Institution in America)

Proctology and Gastroenterology

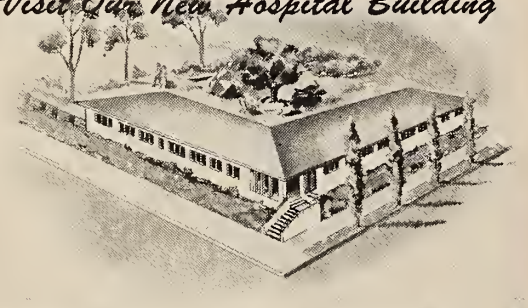
A combined course comprising attendance at clinics and lectures; instruction in examination, diagnosis and treatment; witnessing operations; ward rounds; demonstration of cases; pathology; radiology; anatomy; operative proctology on the cadaver.

EYE, EAR, NOSE AND THROAT

A three months' combined full time refresher course consisting of attendance at clinics, witnessing operations, lectures, demonstration of cases and cadaver demonstrations; operative eye, ear, nose and throat on the cadaver; clinical and cadaver demonstrations in bronchoscopy, laryngeal surgery and surgery for facial palsy; refraction; radiology; pathology, bacteriology and embryology; physiology; neuro-anatomy; anesthesia; physical medicine; allergy; examination of patients preoperatively and follow-up postoperatively in the wards and clinics.

For Information Address: MEDICAL EXECUTIVE OFFICER, 345 West 50th Street, New York 19

Visit Our New Hospital Building



Serving the Medical Profession Since 1935

HYGEIA SANATORIUM

Finest, Modern Accommodations for Treatment of Nervous Cases and

ALCOHOLICS

•

Conditioned Reflex Aversion Method
Treatment and Consultation Rooms for Visiting Physicians
Facilities Available for Shock Therapy

•

Recognized by the American Medical Association

2534 BEVERLY BOULEVARD • LOS ANGELES 4, CALIF.
DUnkirk 8-8178

in cases of threatened or habitual abortion

. . . *fetal salvage*

may be significantly increased*

PRO-GRAVIDUM

MARLYN

The ESTROGENIC plus the PROGESTATIONAL effects of each *Pro-Gravidum* tablet affords more adequate protection.

Diethylstilbestrol . . . . . 10.0 mg.
Progesterone U.S.P. . . . 10.0 mg.

SUGGESTED DOSAGE
Habitual Abortion—One Pro-Gravidum tablet (between gum and cheek) each night for maintenance.
Threatened Abortion — Two to eight Pro-Gravidum tablets daily (between gum and cheek), during period of cramps or bleeding.

* DAVIS, M. E., and FUGO, N. W.: Proc. Soc. Exper. Biol. & Med., 65:283, June, 1947. HUNT, A. B.: M. Clin. North America, 30:965, 1946, VAUX, N. W., and RAKOFF, A. E.: North Carolina Med. J., 7:202, 1946. VAUX, N. W., and RAKOFF, A. E.: S. Clin. North America, 25:324, 1945.

Literature on Request

MARLYN **MARLYN COMPANY, INC.**
309 North Edinburgh, Los Angeles 48, Calif.

TITRALAC

[GLYCINE AND CALCIUM CARBONATE]

ANTACID TABLETS

TABLETS: 40's AND 100's

LITERATURE AND SAMPLES ON REQUEST

IN CONTINUOUS THERAPY OF GASTRIC HYPERACIDITY ESPECIALLY IN THE MANAGEMENT OF PEPTIC ULCER; ONE TABLET PROVIDING THE ACID-NEUTRALIZING POWER OF EIGHT OUNCES OF FRESH MILK

SCHENLEY LABORATORIES, INC. • 350 FIFTH AVE., N. Y. 1

HENLEY LABORATORIES, INC.

DOCTOR BLAMES EYES FOR 25 PER CENT OF HEADACHES

Eyes are a cause of headache in 25 per cent of patients, a Detroit ophthalmologist reported in a recent issue of the *Journal of the American Medical Association.*

"More patients consult medical clinics because of headaches than for any other single complaint, and for the same reason they most frequently consult an oculist," said Dr. Albert D. Ruedemann, professor of ophthalmology at Wayne University School of Medicine.

"There is probably more medicine sold for headaches than for any other condition. Some of the large drug concerns build up tremendous fortunes by relieving the ordinary headache.

"It is the great social excuse for avoiding disagreeable engagements. While it is easy to label the patient neurasthenic or hysterical or just nervous, the headache may be the forerunner of a serious intracranial disease."

He said most eyes are overused, either from too much use or from use under poor working conditions.

He listed as possible victims of faulty eye functioning: The girl with a nervous breakdown, the child who is inattentive, the person in business who has a headache at noon which is relieved by lunch and then has a recurrence about 3 or 4 o'clock, the clock watcher, the student who cannot concentrate

(Continued on Page 38)

Space For Lease

NOW UNDER CONSTRUCTION

NEW MEDICAL BLDG.

SAN RAFAEL • MARIN COUNTY

Occupancy About March 30, 1951

PARKING FACILITIES • 20 SUITES

For information write or phone

MARIN MEDICAL BUILDING, INC.

70 Eddy St., San Francisca 2, Cal.

Day Phone: YUkan 6-1282

Evenings: San Rafael 2700-R ar 1290

COMPTON SANITARIUM

820 West Camptan Blvd. Comptan, Califarnia

NEvada 6-1185

High Standards of Psychiatric Treatment

Las Campanas Hospital
under same Medical Direction

Approved by American College of Surgeons

Philip J. Cunnane, M.D. *Director*

G. Creswell Burns, M.D. *Medical Director*

Helen Rislow Burns, M.D. *Assistant Medical Director*

Established in 1915

Indicated in the management
of
EXCESSIVE BLOOD CHOLESTEROL

IN ATHEROSCLEROSIS

a more favorable prognosis usually follows the use of . . .

LIPO-B

an orally effective lipotropic compound

FORMULA: Six tablets daily pravide—

Chaline Dihydragen Citrate	1,800 mg.
Inasital	900 mg.
Pyridaxine HCl	12 mg.
Niacinamide	120 mg.
Ribaflavin	24 mg.
Thiamine HCl	12 mg.
Calcium Pantothenate	12 mg.

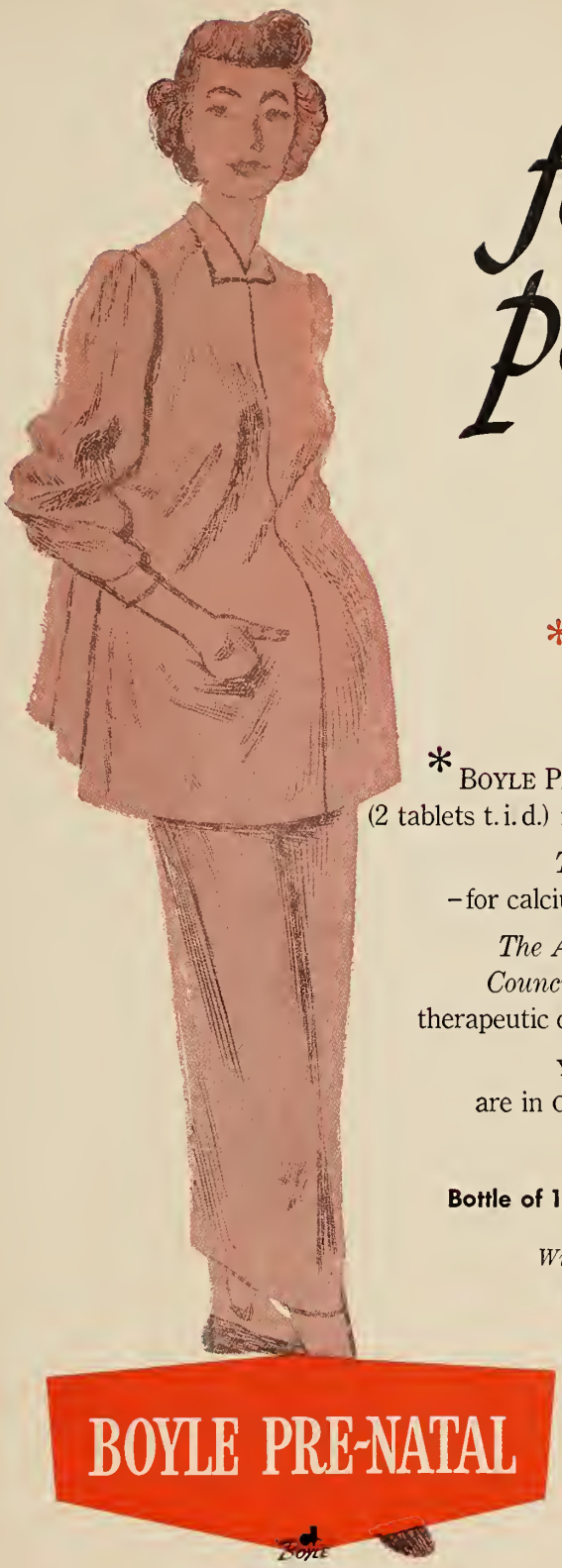
DOSAGE: Two to six toblets doily.

SUPPLIED: Bottles of 100 ond 1,000 specially cooted toblets.

Literature and Samples on Request

UNITED LABORATORIES, LTD.

PASADENA • Estoblished 1917 • CALIFORNIA



for both patients

***complete**
***recommended**
nutrition

* *All known nutritional recommendations for the pregnant patient (except protein).*

* BOYLE PRE-NATAL suggested daily dose (2 tablets t. i. d.) meets the recommendations of:

The National Research Council – for calcium, iron, A and D in pregnancy

The American Medical Association, Council on Foods and Nutrition – for therapeutic dosages of the B Complex and C

YET, all these nutritional factors are in ONE WELL-TOLERATED PRODUCT, at LOW COST to the patient.

Bottle of 126's, available at all pharmacies

Write for full size sample and literature

BOYLE & COMPANY · LOS ANGELES 33

Manufacturers and National Distributors of Ethical Pharmaceuticals Since 1927

Each Pre-Natal tablet contains: Calcium (from Dicalcium Phosphate Anhydrous), 0.25 gm.; Iron (from Ferrous Gluconate), 7.5 mg.; Vitamin A (fish liver oil), 1000 USP units; Vitamin D (Viosterol), 133 USP units; Thiamine, 1.66 mg.; Riboflavin, 0.83 mg.; Niacinamide, 16.6 mg.; Ascorbic Acid, 16.6 mg.

DOCTOR BLAMES EYES FOR 25 PER CENT OF HEADACHES

(Continued from Page 34)

and the convalescent patient who reads in bed and has a headache. "They may require medical exercises, surgical treatment, glasses or all three," Dr. Ruedemann said.

"Nearsighted persons do not have headache or head pain unless the nearsightedness is unequal or severe or unless they are abusing their eyes. Nearsightedness in combination with a muscle error may cause trouble.

"Farsighted persons are apt to have frontal headaches which are moderate to severe and are present almost daily in the afternoon or evening. Farsightedness sometimes is definitely associated with certain types of work. The diagnosis is easy to make and the treatment is a pair of glasses used therapeutically and not as an aid to vision.

"If there is an inequality in the amount of error in the two eyes the pain may be severer over one eye and more common as a cause of headache.

"Neck pain is more frequently due to ocular muscle imbalance than to anything else. The neck muscles function primarily to move the head so that the eyes will be in a position to see."

ROUGH HANDS
FROM TOO MUCH SCRUBBING?

Saathe raugh, dry skin with AR-EX Chap Cream. Contains healing ingredient, carbanyl diamide. *Aids severely chapped and broken skin.* Pleasant ta use. Scented ar Unscented. *Send far sample.*

AR-EX COSMETICS, INC., 1036-J W. Van Buren St., Chicago 7, Ill.

PARK SANITARIUM

A proprietary institution for the care and treatment of alcoholic, addiction, and mental patients.

SINCE 1912

1500 PAGE STREET
SAN FRANCISCO 17

Telephone
MArket 1-4343

GET ACQUAINTED OFFER

Thousands Of Physicians
Rely On Our
Quality & Service

____	PROCAINE PENICILLIN G, 300,000 Units per cc, in Oil, 96 hour type	10 cc Vial $2.25
____	PROCAINE PENICILLIN G, 300,000 Units per cc, Aqueous Susp. (Stable Room Temp.)	10 cc Vial $3.25
____	DESOXYCORTICOSTERONE ACETATE, Oil or Aqueous, 5 mgs. per cc	10 cc Vial $6.50
____	VITAMIN C (Sod. Ascorbate), 1 gm. per Ampul—Box of 12—10 cc Ampuls	per Box $3.00
____	VITAMIN B-12 (Pure Crystalline Merck Material) 30 Micrograms per cc	10 cc Vial $1.95
____	VITAMIN B-12 (Pure Crystalline Merck Material) 15 Micrograms per cc	10 cc Vial $1.50
____	VITAMIN B-1 (THIAMINE HYDROCHLORIDE) 300 Mgs. per cc	30 cc Vial $4.90
____	VITAMIN B-6 (Pyridoxine Hydrochloride) 100 mgs. per cc	10 cc Vial $1.95
____	VITAMIN B-6 VITAMIN B-1 (Pyridoxine-Thiamine) 100 mgs. of each per cc	10 cc Vial $3.00
____	TESTOSTERONE, Oil or Aqueous, 10 cc Vial—25 mgs. per cc	10 cc Vial $1.75
____	TESTOSTERONE, Oil or Aqueous, 10 cc Vial—50 mgs. per cc	10 cc Vial $3.50
____	ESTROGENS NATURAL, Oil or Aqueous, 10,000 International Units per cc	30 cc Vial $2.50
____	ESTROGENS NATURAL, Oil or Aqueous, 20,000 International Units per cc	30 cc Vial $3.00
____	ESTRONE PURE, Contains no Urinary Impurities, 1 mg. per cc, Oil or Aqueous	30 cc Vial $2.50
____	ESTRONE PURE, Contains no Urinary Impurities, 2 mgs. per cc, Aqueous	30 cc Vial $3.50
____	ESTROGENS NATURAL, 25,000 Units with PROGESTERONE, 25 mgs. per cc (Aqueous)	30 cc Vial $6.50
____	PROGESTERONE, 25 mgs. per cc, Oil or Aqueous	30 cc Vial $5.50
____	METHYL TESTOSTERONE, 10 mgs. per Tablet (Pure Androgenic Substance) FOR ORAL OR SUBLINGUAL USE	Bottle of 100 $5.00

USE THIS AD AS ORDER BLANK **PUT TOTAL HERE**

Quality and Potency Positively Guaranteed

TERMS: Remittance with order, prepaid, or C.O.D. plus charges. Direct by mail only—subject to withdrawal without notice.

Name_____
Address_____
City_____ State_____
Payment Enclosed_____ Send C.O.D._____

NORTON Pharmaceuticals

DEPT. RX **470 N. DECATUR** **MEMPHIS, TENNESSEE**

Advertisers in your OFFICIAL JOURNAL *will appreciate requests for literature*

in the menopause...

"all patients described a sense of well-being [with 'Premarin']."

Neustaedter, T.: Am. J. Obst. & Gynec. 46:530 (Oct.) 1943

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

"PREMARIN"® estrogenic substances (water-soluble)
also known as conjugated estrogens (equine)

highly effective · orally active · well tolerated · imparts a feeling of well-being

Ayerst®

Ayerst, McKenna & Harrison Limited · 22 East 40th Street, New York 16, New York

AUREOMYCIN USED TO PREVENT TOOTH EXTRACTION INFECTIONS

Successful use of aureomycin in reducing bacterial invasion of the blood as a result of tooth extraction is reported by a group of doctors and medical researchers at the Hospital of St. Raphael, New Haven, Conn. This is of particular importance to patients with heart conditions.

Writing in a recent issue of *Archives of Internal Medicine*, published by the American Medical Association, the doctors report "20 per cent of all cases of subacute bacterial endocarditis can be traced to recent dental manipulation."

Drs. Oscar Roth and Robert H. Parrott; A. L. Cavallaro, oral surgeon; and Rose Celentano, medical technologist, made a study of 50 patients. Half the patients (25) received aureomycin; the other 25 remained untreated. Blood tests revealed streptococcus viridans (the organism most commonly implicated as causing the membrane infection) in 14 of the untreated patients but in only one of the patients who received the drug.

Streptococcus viridans is present in the mouths of healthy persons but increases in number with gum infections and dental decay. Defenses of the body ordinarily would destroy the bacteria. However, if the heart membranes have been injured by previous illnesses or disease, often unknown to the patient,

(Continued on Page 46)

THE CALIFORNIA SANATORIUM

Fully equipped for the diagnosis and modern treatment of diseases of the chest, including tuberculosis and other respiratory diseases

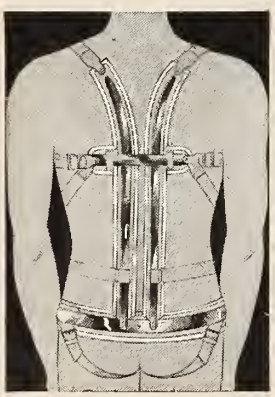
BELMONT, CALIFORNIA

Telephone: LYtell 3-2171

San Francisco Office:
536 Mason Street
Phone DOuglas 2-5793

THOMAS B. WIPER, M.D.
Director and Consultant in Thoracic Surgery

ALLEN A. LILIENTHAL
W. N. TORRE, M.D.
Resident Clinicians



Modified

TAYLOR

Spinal Brace

•

Indicated for use following fracture of the spine or Pott's disease. Can be made of spring tempered duralumin or light flexible spring steel.

Write or phone for directions for taking measurements.

•

HITTENBERGER'S

1117 Market Street San Francisco 460 Post Street
Oakland San Mateo Fresno

RALEIGH HILLS SANITARIUM, Inc.

Recognized by the American Medical Association

Member: American Hospital Association

Exclusively for the treatment of

Chronic Alcoholism

by the Conditioned Reflex and Adjuvant Methods

MEDICAL STAFF

Ernest L. Boylen, M.D. John R. Montague, M.D.
William C. Panton, M.D. John W. Evans, M.D.
Psychiatrist
James G. Perkins, M.D.

B. S. P. MILES, Administrator

S. W. Scholls Ferry Road
P. O. Box 366 Portland 7, Oregon
Telephone CHerry 1144

Advertisers in your Official Journal *will appreciate requests for literature*

In a ***critical evaluation***
of drugs for treating
urinary tract infections
it has been noted that:

SULAMYD®

(Sulfacetimide)

"combines the features of good antibacterial activity, low toxicity, and rapid renal elimination resulting in high urinary level. . . . Sulfacetimide . . . has the advantage of high solubility even in the physiological acid range of the urine, thereby minimizing almost to a negligible point the danger of concrement formation. . . ."[1] Because of its wide antibacterial range it may be preferable to penicillin and streptomycin.[2] It is well tolerated and remarkably free from side effects.[3]

DOSAGE: Therapeutic: 2 tablets t.i.d. for 10 days.
Prophylactic: 1 tablet t.i.d.

SULAMYD Tablets 0.5 Gm. in bottles of 100 and 1000 tablets.

1. Nesbit, R. M., and Glickman, S. I.: J. Michigan State M. Soc. *46*:664, 1947.
2. Dodson, A. I.: West Virginia M.J. *45*:1, 1949.
3. Seneca, H.; Henderson, E., and Harvey, M.: J. Urol. *61*:1105, 1949.

SULAMYD

SCHERING

Schering CORPORATION·BLOOMFIELD, NEW JERSEY

AUREOMYCIN USED TO PREVENT TOOTH EXTRACTION INFECTIONS

(Continued from Page 42)

the bacteria implant themselves on the damaged tissues.

The report continues:

"For this reason, it is of the utmost importance to eliminate the source of infection in persons with heart disease.

"Particular caution is necessary in these patients prior to tooth extraction or any other dental manipulation. especially when infection is present, in an effort to reduce the high incidence of transient bacteremia following such operations."

Every patient before a tooth extraction should be carefully questioned and examined for certain heart conditions. If such a condition is found treatment should be given to reduce the bacteria, the report advises.

In the opinion of the doctors making the study, aureomycin was given good recommendation because it can be given orally, it apparently does not produce drug-resistant organisms, and it successfully reduces streptococcus viridans.

Rent an Office
Buy or Sell Equipment
Find an Associate
Read and Advertise in
CALIFORNIA MEDICINE'S
CLASSIFIED ADVERTISING SECTION

The Colfax Hospital for the Tuberculous

(Formerly a Unit of the Colfax School for the Tuberculous)

Colfax, California

For the Treatment of Pulmonary Tuberculosis

Vernon W. Padgett, M.D.
Medical Director
Colfax, California

Robert A. Peers, M.D., F.A.C.P.
Consultant
Colfax, California

Emile F. Holman, M.D., F.A.C.S.
Thoracic Surgeon
Stanford Hospital

For the Failing Heart of Middle Life

Prescribe 2 or 3 tablets of Theocalcin, t. i. d. After relief is obtained, continue with smaller doses to keep the patient comfortable. Theocalcin strengthens heart action, diminishes dyspnea and reduces edema.

Brand of theobromine-calcium salicylate, Trade Mark reg. U. S. Pat. Off.

Bilhuber-Knoll Corp. Orange, N. J.

California MEDICINE

OFFICIAL JOURNAL OF THE CALIFORNIA MEDICAL ASSOCIATION
© 1951, by the California Medical Association

VOL. 74 JANUARY 1951 No. 1

Practical Aspects of the Low Sodium Diet

Prepared by a Committee of the San Francisco Heart Association*

EDEMA fluid is essentially an isotonic solution of salt and water. In order to maintain this normal concentration of sodium, any physiological disturbance resulting in a retention of sodium results in a corresponding retention of water. Conversely, whenever there is a retention of water, sodium is retained in order to preserve isotonicity. This relationship depends on normal renal function and fails when the kidney is unable to maintain the normal sodium concentration.

The fundamental objective in the use of a diet low in sodium is the reduction of interstitial and subcutaneous fluid. When an edematous state exists, the reduction of sodium intake sufficient to create a negative sodium balance results in diuresis with consequent decrease in accumulated sodium and water. Furthermore, when the bodily tendency to produce edema exists, the actual retention of sodium may be prevented or diminished by limiting the amount of sodium available to the body. The amount of sodium restriction required varies from case to case and from time to time in the individual case; it depends in part on the previous sodium intake of the patient and the severity of the disease process. In cardiac failure of mild degree, for instance, usually only moderate restriction of sodium is required. In nephrosis, however, rigid restriction of sodium intake to 300 mg. or less per day may be necessary, since many patients with nephrosis excrete practically no sodium in the urine. Any sodium given in the diet, therefore, will be retained with an equivalent amount of water, thus aggravating the edema.

In edema, it is the sodium ion and not the chloride ion which must be withheld from the patient. When the term "salt" is used, as in "low salt diet," it is important to remember that sodium is meant. Pfeiffer in 1911 demonstrated that retention of fluid in edematous states occurred with both sodium bicarbonate and sodium chloride, but did not occur with ammonium chloride or potassium chloride. In fact, slight diuresis occasionally occurred with the latter two substances.

DEGREES OF SODIUM RESTRICTION

The average daily diet contains about 10 gm. of sodium chloride (4 gm. of sodium). Special preferences for highly seasoned food, or the inclusion of large amounts of bread, may double this figure. Mild sodium restriction: 2 to 5 gm. NaCl (0.8 gm. to 2 gm. Na). Moderate sodium restriction: 1 to 2 gm. NaCl (0.4 gm. to 0.8 gm. Na). Rigid sodium restriction: 250 to 1,000 mg. NaCl (100 mg. to 400 mg. Na).

INDICATIONS FOR SODIUM RESTRICTION[3, 4, 5]

I. *Congestive Heart Failure*

Regardless of the mechanism which is ultimately found responsible for the congestive phenomena in cardiac failure, the initial disturbance is failure of

*Maurice Sokolow, M.D., chairman; Jean Addis, technician; Roberta Bramhain, B.S., dietitian; Nancy Hooper, B.S., dietitian; John Luetscher, M.D.; Kalman Klinghoffer, M.D.; Arthur Selzer, M.D.; and Esther Sippel, B.S., dietitian.

Free use was made in this study of the "Sodium and Potassium Analyses of Foods and Water," which is available from Mead Johnson and Company. In addition, many determinations were made by the Salt-Free Diet Committee.

Permission to reprint the tables on sodium and potassium in foods and waters was given by Mead Johnson and Company, Evansville, Ind., and the *Journal of American Dietetic Association*, where they were first published, 25:304-314, April 1949.

the heart as a pump. All authorities agree that there is retention of salt and water, and that this retention is responsible for many of the symptoms of congestive heart failure. Restriction of sodium, therefore, is one of the prime therapeutic procedures to be carried out in both low output and high output cardiac failure. The restriction of sodium necessary to produce diuresis in the individual patient varies with the previous sodium intake and degree of failure. If the patient has minimal cardiac failure, a high salt intake may produce frank clinical cardiac failure. In such patients, restriction of the salt intake to normal values, or a moderate decrease to one to two grams a day, may satisfactorily produce diuresis. In some patients, however, a strict 350 mg. sodium diet is required in order to effect diuresis. At times, reduction of salt intake by as little as 1 gm. a day may obviate the need for mercurial diuretics to maintain an edema-free state. Maximum diuresis from sodium restriction usually occurs within one to two weeks.

Once congestive failure has been treated, and the patient has no symptoms or signs of failure, the intake of sodium may be moderately liberalized, although the patient should be observed for possible recurrence of failure. If no recurrence follows, the patient may then continue with the liberalized restriction of salt to two to three grams per day. If the failure occurs the patient may have to be maintained on the strict 350 mg. sodium diet. In general, restriction of sodium may be as rigid or as liberal as required for the individual patient.

In clinical practice a balance between the degree of sodium restriction and the frequency of mercurial injections may be necessary to conform with the attitude or life situation of the individual and the willingness of the patient to cooperate. Mild cases may respond to either sodium restriction or the administration of mercurial diuretics. Occasionally, merely changing a diet high in salt to one containing average amounts may control the edema. Frequently, however, sodium restriction must be used in combination with mercurial diuretics. The optimal plan must be worked out for the individual patient, taking into consideration the effectiveness and the convenience of the two components of the treatment.

Diuretics other than mercurials may be employed in combination with sodium chloride restriction but are generally not so effective.

II. *Nephrosis*

While it has been established that the osmotic pressure of plasma and the concentration of serum albumin are greatly reduced in patients with nephrosis, there is considerable evidence to indicate that retention of salt and water also plays a role in the generalized edema of nephrosis. Spontaneous diuresis sometimes occurs without an increase in the osmotic pressure of the serum or in the serum albumin level. Furthermore, replacement of the total circulating protein with parenteral serum albumin does not, in many cases, cause an increase in the concentration of serum albumin.[2] Restriction of sodium at times produces diuresis and may prevent reaccumulation of edematous fluid. Restriction of sodium, therefore, is a very helpful adjunct to the treatment of the nephrotic syndrome.

III. *Cirrhosis of the Liver*

In some cases of cirrhosis of the liver, retention of salt and water (possibly related to an excessive amount of antidiuretic hormone) may be present. Portal obstruction also may be responsible for the ascites, as may other factors. In some patients restriction of sodium may prevent the further accumulation of ascitic fluid, or may be helpful in producing diuresis. Caution should be used if paracentesis is to be performed on these patients and if ammonium chloride is concomitantly used, because of the danger of salt depletion. In some patients, however, the rapidity of recurrence of ascites may be decreased if a low sodium diet is used.

IV. *Hypertensive Vascular Disease*

Because of the considerable difference of opinion as to the value of restriction of sodium in the treatment of hypertensive vascular disease, this form of treatment must be considered to be in the experimental stage. Some practitioners advocate a strict rice diet as suggested by Kempner; others feel that restriction of sodium is helpful, and still others feel that there is no need to restrict either salt or protein intake by these patients. Many workers, however, do admit that there are some hypertensive patients who seem to improve following rigid restriction of sodium.

V. *Preeclampsia and Eclampsia*

Obstetricians in general believe that if patients gain weight inordinately or show some edema in the last trimester of pregnancy, restriction of sodium is helpful in preventing the development of preeclampsia. In the presence of eclampsia or preeclampsia, restriction of sodium is considered to be helpful.

VI. *Acute Glomerulonephritis*

The cause of edema in acute nephritis is a subject of debate, but in some cases it may be due to salt retention associated with glomerular damage and relatively normal tubular function. Restriction of sodium is indicated for patients who have the disease.

SODIUM DEPLETION: HAZARDS OF A LOW SODIUM DIET

When a normal person is placed on a restricted sodium diet his urinary sodium excretion becomes proportionately decreased so that a balance is maintained. This procedure, however, is potentially dangerous for a patient with chronic renal insufficiency. When the base-preserving mechanisms are depressed, a negative sodium balance may result. If

the sodium intake is then decreased, the signs and symptoms of salt depletion may be induced and the renal insufficiency aggravated.

The salt depletion syndrome is particularly liable to occur when patients receiving a low sodium diet are given mercurial diuretics frequently. Particular care must be exercised when this combination is used, in order to detect the early manifestations of salt depletion. The early symptoms of sodium depletion are weakness, dehydration, lethargy, muscle cramps and decreased urinary output; serum sodium and chloride concentration may fall, and the non-protein nitrogen or urea level in the blood may rise. Patients whose renal function is impaired should be carefully observed when a salt-free diet is introduced. Serial determinations of the serum sodium and of the non-protein nitrogen in the blood should be done. If the laboratory is unable to determine serum sodium, an approximation can be reached from Peters' formula based on the estimation of chloride and bicarbonate in the plasma. This formula is as follows:

$$\text{Serum Na (mEq/L)} = 0.5 \times CO_2\,(\text{mEq/L}) + 23.2 + \text{Cl (mEq/L)}^{1}$$

A reduction of serum chlorides alone often permits one to infer the presence of a reduction in serum sodium. The simple determination of serum chloride may permit one to recognize salt depletion when it is well-marked.

When the early manifestations of sodium depletion become apparent, sodium must be added to the diet; the addition of 1 to 3 gm. per day will usually be adequate. Patients placed on a 350 mg. sodium diet should be under careful observation. Patients, particularly those living in hot climates, should not be given this diet unless it is possible to check their condition frequently. To detect inordinate loss and to determine if the patient actually is following the salt-free diet, it is often profitable to determine the sodium excretion by measuring the sodium or chloride content of a 24-hour specimen of urine.

Salt Substitutes

There is a variety of salt substitutes on the market. It is important to emphasize that only salt substitutes free of sodium can be used by patients on the 350 mg. diet. Most of the salt substitutes are weak crystalline preparations of potassium chloride which, when used in moderation, are perfectly adequate. The various preparations on the market differ somewhat in taste, and the patient may use his own judgment as to which one he prefers. Westsal®, a liquid preparation of lithium chloride, was used by many people, but because of its possible toxic qualities it has been removed from the market.

LOW SALT DIET

Health Food Stores Survey

A number of foods, beverages and canned foods were purchased at random from some of the health food stores in San Francisco, and examined for sodium content. The particular brands and items purchased were those available at the time. No comment was made that any particular survey was being made.

The results of the study were as follows: None of the cookies, snails or muffins can be considered to be low in sodium. A considerable variation was noted in the sodium content of the various sparkling waters and soft drinks, as well as in different brands of beer. The sodium content of toothpastes also varied considerably. Two of the brands of vegetables which were labelled "no added salt" (S&W "Nutradiet" and Monarch) contained relatively little sodium, but the amount was sufficient to warrant care when included in the diet. It is to be noted that neither of these brands contained added salt, but there was a variation in sodium content from can to can because of the natural variation in concentration in the various foods. The soup bases tested contained a large amount of sodium.

SODIUM CONTENT OF FOODS AND BEVERAGES

Available at San Francisco health food stores and labelled low in salt. The amounts listed represent actual determinations on random purchases of one or two samples. Each datum represents a separate sample.

I. Baked Goods:	*Na per Gram*	*Na per Av. Serving*
Bread, white:		(1 slice=approx. 30 gm.)
Golden Crescent, unbleached	1.8 mg. per gm.	55 mg. per slice
Golden Crescent	0.5 mg. per gm.	15 mg. per slice
Golden Crescent	0.1 mg. per gm.	4 mg. per slice
Bill Baker	0.4 mg. per gm.	11 mg. per slice
Bread, white wheat:		
Cellu (canned)	0.3 mg. per gm.	10 mg. per slice
Hohlamus (milk bread)	0.2 mg. per gm.	5 mg. per slice
Oroweat	0.6 mg. per gm.	17 mg. per slice
Bread, whole wheat:		
Golden Crescent	0.1 mg. per gm.	4 mg. per slice
Golden Crescent	0.2 mg. per gm.	5 mg. per slice
Golden Crescent	0.2 mg. per gm.	6 mg. per slice
Golden Crescent	2.3 mg. per gm.	69 mg. per slice
Rosenberg's	0.2 mg. per gm.	5 mg. per slice
Rosenberg's	0.2 mg. per gm.	6 mg. per slice
S. F. Health Food Store	0.2 mg. per gm.	7 mg. per slice
S. F. Health Food Store	0.2 mg. per gm.	7 mg. per slice
Bread, cracked wheat:		
Golden Crescent, unbleached	5.1 mg. per gm.	154 mg. per slice
Bread, soy:		
Rosenberg's	0.1 mg. per gm.	2 mg. per slice
Crackers, wheat soda:		
Cubbison's unsalted	3.2 mg. per gm.	10 mg. per cracker
Muffins:		
Rosenberg's bran, with raisins	8.6 mg. per gm.	349 mg. per muffin
Rosenberg's soy	5.2 mg. per gm.	344 mg. per muffin*
Rosenberg's soy	5.6 mg. per gm.	271 mg. per muffin*

* Muffins differed in size.

Cookies, rolled oats:	*Na per Gram*	*Na per Av. Serving*
Golden Crescent, plain	1.9 mg. per gm.	46 mg. per cookie
Golden Crescent, plain	2.4 mg. per gm.	55 mg. per cookie
Golden Crescent, raisin	1.1 mg. per gm.	23 mg. per cookie
Golden Crescent, raisin	2.4 mg. per gm.	60 mg. per cookie
Golden Crescent, raisin	2.5 mg. per gm.	60 mg. per cookie

Cookies, assorted:		
Golden Crescent, English rock	2.1 mg. per gm.	56 mg. per cookie
Golden Crescent, macaroon	0.1 mg. per gm.	2 mg. per cookie
S. F. Health Food Store, soya	1.4 mg. per gm.	28 mg. per cookie
Rosenberg's soy potato	1.9 mg. per gm.	28 mg. per cookie
Golden Crescent, soya wheat germ, fruit	2.7 mg. per gm.	67 mg. per cookie
Golden Crescent, wheat germ	1.6 mg. per gm.	37 mg. per cookie

Miscellaneous baked goods:		
Rosenberg's butterhorn	1.8 mg. per gm.	306 mg. per butterhorn
Rosenberg's raisin snail	1.8 mg. per gm.	306 mg. per snail

II. Pastes:

	Na per Gram	*Na per Av. Serving*
Macaroni	0.03 mg. per gm.	0.1 mg. per ½ cup cooked
Semolina	0.02 mg. per gm.	0.1 mg. per ½ cup cooked
Spaghetti	0.03 mg. per gm.	0.1 mg. per ½ cup cooked
Egg noodles	0.1 mg. per gm.	3.0 mg. per ½ cup cooked

III. Beverages:

Beer:	*Na per cc.*	*Na per Av. Serving*
Acme	0.1 mg. per cc.	40 mg. per 12 oz. bottle
Wieland's	0.1 mg. per cc.	32 mg. per 12 oz. bottle
Lucky Lager	0.03 mg. per cc.	11 mg. per 12 oz. bottle
Pabst Blue Ribbon	0.03 mg. per cc.	11 mg. per 12 oz. bottle
Regal Pale	0.07 mg. per cc.	25 mg. per 12 oz. bottle
Schlitz	0.01 mg. per cc.	4 mg. per 12 oz. bottle

Cola:		
Coca-Cola	0.02 mg. per cc.	4 mg. per 6 oz. bottle
Dr. Pepper	0.03 mg. per cc.	5 mg. per 6 oz. bottle
Pepsi Cola	0.10 mg. per cc.	36 mg. per 12 oz. bottle

Miscellaneous Carbonated:		
Creme Soda, Circle A	0.01 mg. per cc.	4 mg. per 12 oz. bottle
Grape Soda, Dr. Pepper	0.12 mg. per cc.	42 mg. per 12 oz. bottle
Ginger Ale, Canada Dry	0.02 mg. per cc.	5 mg. per 8 oz. glass
Ginger Ale, Yosemite Dry	0.03 mg. per cc.	7 mg. per 8 oz. glass
Orange Soda, Yosemite	0.23 mg. per cc.	83 mg. per 12 oz. glass
Root Beer, Yosemite	0.05 mg. per cc.	18 mg. per 12 oz. glass
Seven-up	0.01 mg. per cc.	2 mg. per 7 oz. bottle
Strawberry Soda, Yosemite	0.05 mg. per cc.	18 mg. per 12 oz. bottle

Sparkling Water:		
Belfast	0.1 mg. per cc.	22 mg. per 8 oz. glass
Canada Dry	0.2 mg. per cc.	48 mg. per 8 oz. glass
Everyess	0.2 mg. per cc.	50 mg. per 8 oz. glass
Everyess	0.2 mg. per cc.	41 mg. per 8 oz. glass

Wine:		
Di Giorgio, muscatel	0.2 mg. per cc.	21 mg. per 100 cc.

IV. Dairy Products:

Cottage Cheese, curd:	*Na per Gram*	*Na per Av. Serving*
Borden's	0.2 mg. per gm.	20 mg. per 100 gm.
Rosenberg's	0.2 mg. per gm.	18 mg. per 100 gm.

V. Desserts:

Ice cream, vanilla:		
Golden State	0.8 mg. per gm.	82 mg. per 100 gm.

Sherbet, raspberry:		
Arden's	0.2 mg. per gm.	21 mg. per 100 gm.

Creme dessert, vanilla:	*Na per Gram*	*Na per Av. Serving*
Bernard's	5.9 mg. per gm.	59 mg. per 10 gm. serving
Bernard's	6.1 mg. per gm.	61 mg. per 10 gm. serving
Bernard's	7.9 mg. per gm.	79 mg. per 10 gm. serving

Orange jell:		
Vivita, "Claire's"	0.8 mg. per gm.	21 mg. per ¼ pint serving

Candy:		
Marzipan, Scandia Maid	0.3 mg. per gm.	9 mg. per 30 gm. bar

VI. Soups:

Consomme, jellied, powdered:		
Milani's	0.5 mg. per gm.	2 mg. per 3 gm. serving

Pea soup, puree:		
Twin Gable	0.2 mg. per gm.	22 mg. per 100 gm. serving

Soup base:		
Bernard's chicken	9.8 mg. per gm.	73 mg. per 7.5 gm. serving
Bernard's chicken	10.1 mg. per gm.	76 mg. per 7.5 gm. serving
Bernard's beef	14.4 mg. per gm.	108 mg. per 7.5 gm. serving
Bernard's beef	15.6 mg. per gm.	117 mg. per 7.5 gm. serving

VII. Vegetables, Canned:

Corn, whole kernel:		
Monarch	0.2 mg. per gm.	18 mg. per 100 gm. serving

Peas, sweet:		
S&W "Nutradiet"	0.1 mg. per gm.	5 mg. per 100 gm. serving
Monarch	0.1 mg. per gm.	12 mg. per 100 gm. serving

Tomato Juice:	*Na per cc.*	*Na per Av. Serving*
S&W "Nutradiet"	0.1 mg. per cc.	5 mg. per 100 cc. serving
"Dietone"	0.03 mg. per cc.	3 mg. per 100 cc. serving

VIII. Tooth Paste and Powder:

Pastes:	*Na per Gram*
Pepsodent	53.73 mg. per gm.
Pepsodent	64.86 mg. per gm.
Squibb	2.41 mg. per gm.

Powders, ammoniated:	
Colgate	2.2 mg. per gm.
Colgate	4.6 mg. per gm.
Dentrix	7.6 mg. per gm.

IX. Baking Powder:

Potassium	0.27 mg. per gm.	1.4 gm. per teaspoon

San Francisco Heart Association, 604 Mission Street.

REFERENCES

1. Hald, P. M., Heinsen, A. J., and Peters, J. P.: The estimation of serum sodium from bicarbonate plus chloride, J. Clin. Invest., 26:983, Sept. 1947.

2. Luetscher, J. A. Jr., Hall, A. D., and Kremer, V. L.: Treatment of nephrosis with concentrated human serum albumin, J. Clin. Invest., 28:700, July 1949.

3. Peters, J. P.: The role of sodium in the production of edema, New England J. Med., 239:353, Sept. 2, 1948.

4. Schroeder, H. A.: Studies on congestive heart failure, Am. Heart J., 22:141, Aug. 1941.

5. Sokolow, M.: The importance of the sodium intake in the management of cardiac failure, Amer. Pract., 3:353, Feb. 1949.

Food List and Directions for Patients on Restricted Sodium Diets

Prepared by a Committee of the San Francisco Heart Association*

GENERAL PRINCIPLES

1. All foods are to be prepared and seasoned without the addition of salt, baking powder or soda. Only compressed yeast is to be used as a leavening agent. Read all labels to note additions of salt or sodium in any form.

2. Avoid medications unless ordered by your physician. Do not use salt and/or soda for a toothpaste.

3. Amounts of meat, milk, eggs and specified vegetables are limited because of high natural sodium content.

4. Avoid commercially prepared "salt-free" products except with permission of your physician.

350-MILLIGRAM SODIUM DIET (BASIC DIET)

Selection of Foods

FRUITS

Amounts: Not limited.

Use as desired: All types, fresh, frozen or canned.

CEREALS AND BREADS

Amounts: Not limited, except as noted.

Use as desired: Cooked cereals without salt; puffed rice, puffed wheat, shredded wheat; specially prepared salt-free yeast breads, Passover matzoths, macaroni, spaghetti, noodles, rice, flour.

Avoid: Quick-cooking cereals, dry cereals except as listed, breads with salt, soda, graham and other commercial crackers, pretzels, pancakes, waffles, muffins, biscuits, self-rising flours.

VEGETABLES

Amounts: Not limited, except as noted.

Use as desired: Fresh, frozen or specially canned without salt: asparagus, avocado, green beans, broccoli, Brussels sprouts, cabbage, corn, carrots, endive, lettuce, mushrooms, onions, parsnips, peppers, sweet potato, white potato, radishes, rutabagas, soy beans, squash, tomatoes, turnip greens; fresh or specially canned peas and green lima beans, dried beans, dried peas, lentils.

Avoid: Canned vegetables with salt, canned vegetable juices, artichokes, beets, celery, chard, dandelion greens, kale, mustard greens, spinach, sauerkraut, frozen peas, frozen lima beans.

EGG

Amounts: One.

MEAT, FISH, POULTRY

Amounts: 4 ounces.

Use as desired (but not more than total of 4 ounces): Beef, lamb, pork, veal, chicken, turkey, rabbit, quail, duck, goose, salmon, halibut, codfish, liver (less than 100 mg. sodium per 100 gm. See sodium content of meat).

Avoid: Ham, bacon, salt pork, corned beef, corned pork, dried beef, canned meats or fish or poultry, sausage, luncheon meats, shellfish, kidney, heart, brains (more than 100 mg. sodium per 100 gm. See list of sodium content of meat).

MILK AND CREAM

Amounts: Half cup.

Use whole milk, skimmed milk, table or whipping cream. (The amount of dialyzed milk that may be used is not limited. One low sodium milk called Lonalac® is available at drug stores.)

Avoid: Buttermilk, cheese.

FATS

Amounts: Not limited, except as noted.

Use as desired: Sweet butter, salad oils, shortenings, salad dressings made at home without salt.

Avoid: Salted butter, bacon fat, peanut butter, margarine, commercial salad dressings.

SWEETS AND DESSERTS

Amounts: Not limited, except as noted.

Use as desired: Sugar, honey, jelly, jam, marmalades, plain gelatine, puddings (cornstarch, tapioca, rice) made with milk allowed (see under milk and cream) or low sodium milk, pie without salt in crust, specially prepared cookies, unsalted nuts, unsalted popcorn, homemade candies, chewing gum.

Avoid: Molasses, syrups with salt, commercial pudding mixes, desserts containing baking powder or baking soda or salt, commercial ice cream, commercial bakery products, salted nuts, potato chips, salted popcorn.

BEVERAGES

Amounts: Not limited, except as noted.

Use as desired: Coffee, tea, Sanka, Postum, fruit juices, low-sodium milk, milk as allowed, chocolate made from milk allowed (see under milk and cream) or low sodium milk (use plain cocoa). Carbonated and alcoholic beverages as allowed by the physician.

Avoid: Prepared chocolate drinks, buttermilk.

MISCELLANEOUS

Amounts: Not limited, except as noted.

Use as desired: Allspice, bay leaves, caraway seeds, cinnamon, chocolate (not Dutch process), curry powder, garlic, ginger, mace, mustard powder, nutmeg, paprika, pepper, rosemary, sage, sesame seeds, thyme, turmeric, vinegar, lemon extract, vanilla extract, peppermint, walnut and maple extracts.

Avoid: Salt, mixtures of spices containing salt, onion salt, garlic salt, celery salt, catsup, pickles, relishes, meat sauces, baking powder, baking soda, prepared mustard.

SOUPS

Amounts: Not limited, except as noted.

Use as desired: Homemade, using only the foods and seasonings allowed.

Avoid: Bouillon cubes, canned soups, dehydrated soups.

*Maurice Sokolow, M.D., chairman; Jean Addis, technician; Roberta Bramham, B.S., dietitian; Nancy Hooper, B.S., dietitian; John Luetscher, M.D.; Kalman Klinghoffer, M.D.; Arthur Selzer, M.D.; and Esther Sippel, B.S., dietitian.

SODIUM CONTENT OF VEGETABLES AND MEATS*

Sodium Content of Fresh Vegetables (per 100 gm.)

	Na per 100 gm.	*Av. Serving*	*Sodium per Av. Portion*
A. Low (below 15 mg. per 100 gm.):			
Asparagus	2 mg.	6 stalks	2 mg.
Avocado	3 mg.	½ avocado	3 mg.
Beans, green	1 mg.	½ cup	1 mg.
Beans, fresh lima	1 mg.	½ cup	1 mg.
Cabbage	5 mg.	½ cup	5 mg.
Corn	0.3 mg.	½ cup	0.3 mg.
Lettuce	12 mg.	1/6 head	6 mg.
Mushrooms	5 mg.	5	3 mg.
Onions	1 mg.	¼ onion	0.3 mg.
Parsnips	7 mg.	½ cup	7 mg.
Peas	1 mg.	½ cup	1 mg.
Peppers	0.6 mg.	¼ pepper	0.15 mg.
Potato, sweet	4 mg.	½ cup	4 mg.
Potato, white	0.8 mg.	½ cup	0.8 mg.
Radishes	9 mg.	3	3 mg.
Rutabagas	4 mg.	½ cup	4 mg.
Soy beans	4 mg.	½ cup	4 mg.
Squash	0.5 mg.	½ cup	0.5 mg.
Tomato	3 mg.	1	2 mg.
Turnip leaves	10 mg.	½ cup	10 mg.
B. Moderate (16 to 40 mg. per 100 gm.):			
Broccoli	16 mg.	½ cup	16 mg.
Brussel sprouts	16 mg.	½ cup	16 mg.
Carrots	31 mg.	½ cup	31 mg.
Cauliflower	34 mg.	½ cup	34 mg.
Endive	18 mg.	4-5 leaves	4 mg.
Parsley	28 mg.	1 sprig	0.2 mg.
Turnips	37 mg.	½ cup	37 mg.
C. High (above 40 mg. per 100 gm.):			
Artichoke	43 mg.	1 whole	86 mg.
Beets	110 mg.	½ cup	110 mg.
Celery	110 mg.	2 stalks	55 mg.
Chard	200 mg.	½ cup	200 mg.
Dandelion green	76 mg.	½ cup	76 mg.
Kale	110 mg.	½ cup	110 mg.
Mustard greens	48 mg.	½ cup	48 mg.
Spinach	82 mg.	½ cup	82 mg.

Sodium Content of Meats and Seafood

A. Low (below 50 mg. per average serving of 100 gm.):	
Quail	35 mg.
Rabbit	47 mg.
Salmon	48 mg.
Tripe, pickled	46 mg.
Turkey	40 mg.
Veal	48 mg.
B. Moderate (50 to 100 mg. per average serving of 100 gm.):	
Beef, lean	51 mg.
Chicken breast	78 mg.
Cod	60 mg.
Duck breast	68 mg.
Neck sweetbread	96 mg.
Beef heart	90 mg.
Beef tongue	100 mg.
Goose	76 mg.
Halibut	56 mg.
Lamb chop	98 mg.
Lamb roast	78 mg.
Oysters	73 mg.
Pig liver	77 mg.
Stomach sweetbread	57 mg.
Pork	58 mg.
Turkey	69 mg.
C. High (100 to 200 mg. per average serving of 100 gm.):	
Beef kidney	210 mg.
Chicken leg	110 mg.
Clams	180 mg.
Calf liver	110 mg.
Goose liver	140 mg.
Lobster	210 mg.
Pig brain	150 mg.
Scallops	150 mg.
Shrimp	140 mg.

* (Mead Johnson tables.)

BEVERAGES (Mead Johnson)

Beer	19 mg. per 8 oz. glass
Brandy	1 mg. per 1 oz. glass
Coca-Cola	2 mg. per 6 oz. bottle
Gin	0.02 mg. per 1 oz. glass
Ginger ale	19 mg. per 8 oz. glass
Root beer	19 mg. per 8 oz. glass
Whiskey	0.01 mg. per 1 oz. glass
Wine, port	4 mg. per 100 cc. glass
Wine, sauterne	10 mg. per 100 cc. glass

SODIUM CONTENT OF TAP WATER

The sodium content of tap water may vary greatly between communities. The patient should consult his physician as to the amount of sodium in the local water supply. Tests of samples in four zones in San Francisco showed a content of 1 mg. per 100 cc. in each zone.

INCREASING THE SODIUM CONTENT OF THE DIET

The following foods contain approximately 100 mg. of sodium in the amount specified. Any combination may be used to increase the diet by the amount of sodium desired.

a. 2 eggs
b. 6 ounces milk (¾ cup)
c. ½ slice regular bread
d. 2 teaspoons salted butter
e. 3½ ounces meat, fish, or poultry
f. ½ ounce cheese

RECIPES

Yeast Bread or Rolls

Place in a large mixing bowl: 2 tablespoons shortening; 2 tablespoons sugar.
Add: 2 cups boiling water; cool to lukewarm.
Dissolve: 1 yeast cake in ¼ cup lukewarm water.
Add: Yeast to lukewarm shortening and sugar mixture.
Add: 3 cups sifted bread flour; mix ingredients well, gradually add 3 cups sifted bread flour.

Mix well with each addition. Use only enough of the flour to prevent sticking, turn onto floured board and knead until mixture is smooth and elastic to the touch, and bubbles may be seen under the surface. Return to bowl, cover and let rise in warm place until double in bulk. Cut down. Turn onto slightly floured board and knead and shape into loaves or rolls. Place in greased loaf pan or on greased baking sheets. Cover and let rise in warm place until double in bulk. Bake bread in hot oven 425°F. for 15 minutes, then reduce to moderate oven 375°F. and bake for 30 to 35 minutes longer. For rolls bake in hot oven 425°F. for 15 to 20 minutes.

Sugar Cookies

Blend together: 1 cup granulated sugar; 1 cup shortening or sweet butter.
Add: 3 eggs, well beaten; 4 cups sifted flour; 2 tsp. vanilla or lemon extract.

Roll out on lightly floured board until quite thin. Sprinkle with granulated sugar. Cut with cookie cutter. Bake in moderate oven 375°F. for 8 to 10 minutes. Yield: 40 cookies.

Chocolate Cookies

Beat well: 2 eggs.
Add: 1 cup sugar, beat until mixture is light and creamy.
Melt: 2 squares unsweetened chocolate in ½ cup shortening or sweet butter.
Add: Chocolate mixture to egg and sugar mixture.
Add: ⅔ cup sifted flour; ½ teaspoon vanilla; ½ cup chopped walnuts; mix thoroughly.

Turn into greased 8-inch square pan and bake in moderate oven 375°F. for 25 minutes. Cool and cut into squares before removing from pan. Yield: 25 cookies, 1½ inch square.

Salt-Free Pie

Use regular recipe for crust, omitting salt. Use fruit with sugar and spices as desired for filling.

General List of Allowable Foods

The following table lists foods that are of importance to patients receiving a strict 350-mg. sodium diet. Listed in the column to the left are foods that can be used as desired. All foods listed in the middle column are to be avoided by patients receiving a 350-mg. sodium diet. In the column to the right are foods that are to be taken in small amounts to supplement the basic diet, depending upon the sodium allowance.

Low Sodium Foods—Use as Desired	High Sodium Foods—Avoid Completely in 350-mg. Sodium Diet	Intermediate Sodium Foods—Amounts Used Depend on Sodium Allowance
Fruits:		
All types		
Cereals and breads:		
Cereals cooked without salt, puffed rice, puffed wheat, shredded wheat, salt-free bread, Passover matzoth, macaroni, spaghetti, noodles, rice, flour.	Pancakes, waffles, biscuits, muffins, salted crackers, pretzels, self-rising flours, salted cereals.	Regular bread (approx. 200 mg. sodium per slice).
Vegetables:		
Vegetables of low sodium content (see list), except peas and lima beans (fresh, frozen or specially canned without salt). Dried beans, peas, lentils.	Vegetables canned with salt, vegetable juices with salt, sauerkraut.	Vegetables of higher sodium content (see list).
	Meat, fish, poultry:	*Egg* (40 mg. sodium per egg):
	Ham, bacon, salt pork, dried beef, corned beef, corned pork, canned meat, fish or poultry, luncheon meats, smoked fish.	See list of sodium content of meats, fish, poultry.
Milk and cream:		
Low sodium milk (Lonalac).		Milk (125 mg. sodium per 8 oz.), table cream (25 mg. sodium per 2 oz.), cheese (approx. 200 mg. sodium per ounce).
Fats:		
Sweet butter, salad oil, shortenings, salad dressings made at home without salt.	Bacon fat, salad dressings with salt.	Salted butter (approx. 100 mg. sodium per 2 teaspoons); margarine (110 mg. sodium per 2 teaspoons).
Sweets and desserts:		
Sugar, honey, jelly, jam, marmalade, plain gelatine, cornstarch, tapioca, unsalted nuts, unsalted popcorn, homemade candies, chewing gum, pie without salt, puddings made with low sodium milk, specially prepared low sodium cookies.	Desserts leavened with ordinary baking powder or soda; salted nuts, salted popcorn, potato chips; commercial bakery products; ready-to-use pudding, ice cream, gelatine, cake and pie crust mixes.	Commercial ice cream (approx. 100 mg. sodium per 3 oz.).
Beverages:		
Coffee, tea, Sanka, Postum, fruit juices, low sodium milk, cocoa made from low sodium milk.		Carbonated and alcoholic beverages (see list), to be used as physician allows; buttermilk, 310 mg. sodium per 8 oz.
Miscellaneous:		
Allspice, bay leaves, caraway seeds, cinnamon, chocolate (not Dutch process), curry powder, garlic, ginger, mace, mustard powder, nutmeg, paprika, pepper, rosemary, sage, sesame seeds, thyme, turmeric, vinegar, vanilla, lemon, peppermint, walnut, or maple extracts, cream of tartar.	Salt, mixtures of spices containing salt, onion salt, garlic salt, celery salt, catsup, pickles, relishes, olives, meat sauces, baking powder or baking soda, prepared mustard.	
Soups:		
Homemade, using foods allowed.	Bouillon cubes, canned soups, dehydrated soups.	

San Francisco Heart Association, 604 Mission Street.

Conservative Management of Third Trimester Bleeding

Edmund W. Overstreet, M.D., and Herbert F. Traut, M.D., *San Francisco*

SUMMARY

In a series of 99 patients with bleeding in the third trimester of pregnancy the absence of any maternal mortality and a gross fetal mortality of 8.9 per cent speak well for the conservative observation policy by which these patients were managed.

Although cost of hospitalization is a drawback to the employment of this approach, it is more than compensated for by reduced operative interference and increased safety for mother and child.

THE sight of freely flowing human blood arouses powerful emotions in both layman and physician. Terror overwhelms the former while an urge to stanch the flow grips the latter. Although this curative urge is a laudable one, it can on occasion be as dangerous as it is well-intentioned. When hemorrhage leads to ill-advised methods aimed at its arrest, such efforts may occasionally jeopardize the patient's life more than the blood loss itself. Nowhere is this better illustrated than in the problem of bleeding during the third trimester of pregnancy.

This presentation is concerned only with third trimester hemorrhage prior to the onset of labor. Vaginal bleeding which starts with the onset of labor or develops during its progress presents problems of diagnosis and calls for methods of management which differ materially from those employed when active hemorrhage is not complicated by uterine labor contractions. For this reason it would seem advisable, in examining the problem of third trimester bleeding, to limit discussion to a single set of circumstances.

Concern over the possible presence of placenta praevia has been the principal determining factor in management of all cases of third trimester bleeding. Most textbooks, for example, still emphasize the dictum that such bleeding, especially when painless, is to be considered due to placenta praevia until proven otherwise. Fear of the occasional massive hemorrhage produced by placenta praevia has led, heretofore, to employment of immediate, active therapeutic measures whenever a patient near term has vaginal bleeding of any considerable degree.

Presented before the Section on Obstetrics and Gynecology, 79th Annual Session of the California Medical Association, San Diego, April 30-May 3, 1950.

From the Division of Obstetrics and Gynecology, University of California School of Medicine, San Francisco.

Unfortunately, this attitude toward the problem has produced disappointing results in two general ways:

1. In the presence of placenta praevia, there has been with this method of management a maternal mortality rate of 5 to 10 per cent and a fetal mortality rate of 40 to 60 per cent.

2. In the absence of placenta praevia patients with third trimester bleeding due to other conditions have too often been subjected to unnecessary radical procedures, notably cesarean section.

These undesirable results have led several able obstetricians to reexamine the problem of third trimester bleeding in a more critical light in the hope of improving methods of management.[1, 2, 3, 4] Out of this has come emphasis on two important principles:

1. Only about 20 per cent of all third trimester bleeding is due to placenta praevia.

2. Third trimester bleeding, even when due to placenta praevia, will cease spontaneously in 24 hours in almost all cases if the patients simply have complete bed rest with mild sedation.

The second of these principles meets with great skepticism from the average physician—indeed, even from trained obstetricians. Most of them are convinced that once extensive hemorrhage commences in a case of placenta praevia, the patient will bleed to death if left alone and not treated with one of the immediate, specific hemostatic measures designed for this condition. Yet the recent literature presents large series of cases which attest the incorrectness of this view. Eastman,[1] for example, stated that in 304 cases of placenta praevia ". . . in no single instance was an initial hemorrhage fatal *except after extensive vaginal manipulation;* in no single instance was a subsequent hemorrhage fatal *except after vaginal manipulation.*" (Italics supplied.) This statement emphasizes the fact that in hemorrhage from placenta praevia the specific vaginal or rectal procedures aimed at diagnosis and arrest of bleeding may often increase the latter enough to produce severe or fatal hemorrhage.

There is great need, therefore, for a treatment method which will arrest hemorrhage in the third trimester *before* specific diagnostic and therapeutic procedures are undertaken. The authors believe that the conservative observation regimen in third trimester bleeding is such a method.

A policy of initiating the treatment of third trimester bleeding by watchful waiting offers a number of very definite advantages. Since bleeding will

cease within 24 hours in over 95 per cent of the cases, the following benefits accrue:

1. Time and opportunity are given the clotting and reparative processes of nature to heal the source of bleeding.

2. Time is available in which to replace by transfusion any blood loss which may temporarily have rendered the patient a poorer risk for delivery or operative procedures. Moreover, blood loss renders a patient more susceptible to infection. If *immediate* manipulative procedures are carried out, infection is liable to be carried in—and not always by organisms sensitive to chemotherapy or antibiotics.

3. If the bleeding has occurred *early* in the third trimester, non-interference and continued observation will often permit the growth of a premature fetus to a stage which gives a greatly increased chance of survival following delivery. Increased fetal salvage is a tremendously important benefit.

4. The ample time afforded permits the application of adequate diagnostic procedures, making likely a more accurate diagnosis before specific therapy is undertaken.

5. Consequently, there is a greater avoidance of radical operative procedures such as cesarean section. In the excitement and concern of the initial hemorrhage. such measures may often seem indicated, but later, more deliberate judgment often reveals them to be ill-advised.

6. This policy affords time for the management of any other coincidental complications of pregnancy which might in any way further compromise the patient's condition at delivery.

7. This policy permits the carrying out of special diagnostic or therapeutic procedures in a scheduled manner rather than in haste, with consequent efficient preparation of equipment and hospital personnel.

The literature presents ample evidence of the safety of conservative observation as an initial policy in managing placenta praevia. Its desirability is obvious in the light of the benefits enumerated. In the authors' opinion the same is true of the milder degrees of premature separation of the normally implanted placenta which may occur during the third trimester before the onset of labor, and which often result in external bleeding. Many patients with mild separation—who might otherwise have been subjected to premature delivery or even cesarean section—appear to have quite satisfactory healing and to go on to later simple vaginal delivery when the opportunity is given under this restrained program.

If the third trimester bleeding is caused by cervical lesions, the conservative policy becomes even more significant. Such lesions may, in many instances, give rise to episodes of fairly extensive hemorrhage, and unfortunately the hemorrhage still is looked upon by many physicians as an indication for immediate cesarean section, without adequate diagnostic investigation or trial of the conservative program. Adherence to the conservative policy in such cases, with adequate employment of further diagnostic procedures, would, of course, protect the patients against compromise of their later childbearing careers by the presence of a uterine scar.

THE CONSERVATIVE OBSERVATION REGIMEN

In order to examine with more understanding the series of cases to be presented herein, an outline of the authors' policy of management for patients who have bleeding during the third trimester of pregnancy is in order:

1. During pregnancy the patient is instructed to report any bleeding immediately by telephone, day or night.

2. Any patient who has such bleeding is hospitalized at once, transportation being preferably by ambulance, especially when the bleeding is profuse. It is impossible to overemphasize the importance of refraining from any manipulations at home before transport to the hospital. *No attempt at diagnosis should be made in the home by vaginal or rectal examinations.* This may lead to death and serves no purpose. *No manipulations designed to arrest blood loss, such as binders or vaginal packing,* should be carried out in the home. They do not accomplish their purpose and they may be lethal. The important thing to remember is that the bleeding will stop with bed rest.

3. The patient is observed at once on admission to the hospital, where she receives a general physical examination, including abdominal palpation, *but no rectal or vaginal examination.* She is placed flat in bed and very mild sedation is given if there is any tendency to restlessness.

4. Immediately upon entry blood is drawn for grouping and cross-matching, and this is carried out *as soon as possible.* Thereafter, a unit of blood is kept nearby ready for immediate use. Patients under observation for third trimester bleeding are kept continually cross-matched with units of blood reserved for them until the possibility of extensive hemorrhage has been ruled out by appropriate measures. If no other advantage whatever accrued from the conservative observation regimen, this single one of gaining time for the obtaining of blood for transfusion would alone justify the method; its importance cannot be overestimated.

5. Should the patient have a degree of anemia or shock on admission, blood transfusion is started as soon as it is available.

6. Practically continuous observation of the patient is maintained so long as active bleeding continues—usually not more than a matter of a few hours. Thereafter, nurse and physician observation is intermittent but frequent.

7. After cessation of bleeding, other diagnostic procedures, such as x-ray placentography, may be undertaken—except for methods involving rectal or vaginal manipulation.

8. Observation and complete rest are maintained for a minimum of one day, and at least three days

should elapse if the clinical picture at all suggests placenta praevia. In a small percentage of cases observation will be terminated in less than one day for a variety of reasons: spontaneous onset of labor, persistent or recurrent bleeding of significant degree, worsening of the general condition as in premature separation, virtual ruling out of serious conditions as by x-ray placentography, and the like.

9. The elective termination of observation after one to three days will depend upon general factors. For example, a patient with a clinical picture highly suggestive of placenta praevia with bleeding at the 34th week of pregnancy and a correspondingly small fetus will be kept on bed rest under observation, if possible, until the fetus reaches a larger size. No specific diagnostic procedure which might necessitate delivery will be carried out until the chances for fetal survival are satisfactory. On the other hand, a patient with a history of cervicitis earlier in pregnancy, admitted because of only slight bleeding in the third trimester, might very well be permitted ambulation in the hospital after a day or two of bed rest; absence of any further bleeding might then indicate simple sterile speculum examination to visualize the cervical bleeding point and treat it locally; the patient might then be discharged to her home.

10. In all cases in which there is even a remote suspicion of placenta praevia, sterile vaginal examination to rule it out is performed before discharge is considered. It is *always* performed with "double set-up" *in the operating room*, with cross-matched blood present and preparations completed for the performance of cesarean section should it become necessary.

11. Further management of the case will, of course, depend upon the findings at sterile vaginal examination and upon the entire clinical situation.

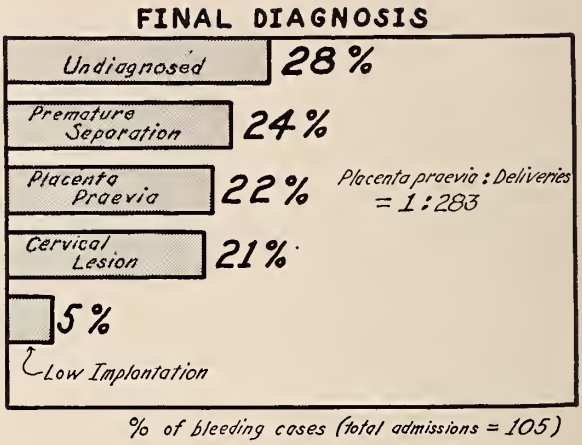
The following report of a series of cases demonstrates what can be accomplished with the regimen outlined.

PRESENTATION OF CASES

The conservative observation regimen for the management of third trimester bleeding has been employed in the University of California Hospital since 1943. During the seven years 1943-49 inclusive, 99 patients, 38 primiparae and 61 multiparae, were admitted to the hospital on this indication alone, without regard to whether or not any abdominal pain was present. Patients in whom bleeding was associated with labor or the onset of labor were not included in this group. In none of these 99 patients, so far as could be determined, was bleeding simply a matter of the appearance of a slight amount of bloody "show." Six of the patients had two admissions for bleeding, and whether or not a specific diagnosis had been made on the previous admission, the management was the same as that given in any other case of third trimester bleeding.

As six of the 99 patients were admitted twice, the number of admissions was 105. The final diagnosis

Chart 1



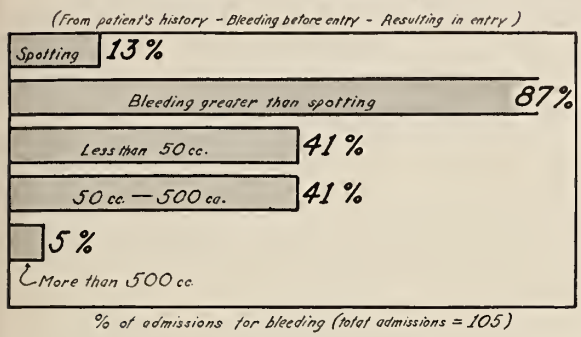
reached in these 99 cases (Chart 1) are illuminating. A case was considered "undiagnosed" unless a specific condition was actually demonstrated by cesarean section, by sterile vaginal examination, by sterile speculum examination, or by definite placental evidence of premature separation of the placenta following delivery. It is of interest, then, that the largest group shown on the chart (28 per cent) was made up of "undiagnosed" cases.

In the 32 admissions in which diagnosis was not established, there was only vaginal spotting prior to admission in six instances, more than spotting but less than 50 cc. of blood loss in 16 instances, loss of between 50 cc. and 500 cc. of blood in ten instances. In ten of these instances certainly (and possibly in a total of 26) cesarean section might well have been considered by some physicians. Under the conservative observation regimen the patients were discharged from the hospital in from one to thirty days after admission in 18 instances, and in 14 cases spontaneous labor began (in from several hours up to 16 days after admission) while the patient was under observation.

It is noteworthy also that in 21 per cent of the cases there was vaginal bleeding during the third trimester from simple cervical lesions. Of the 22 admissions of such patients, five were for spotting only, nine were for blood loss less than 50 cc., and eight for loss between 50 cc. and 500 cc. There was no blood loss greater than 500 cc. from a cervical lesion. Again one might raise the question of what might have been recommended by physicians inclined to resort to cesarean section for appreciable bleeding in the third trimester of pregnancy.

Chart 2 shows the amounts of blood lost in the bleeding episode which resulted in admission to the hospital. Since the amounts are estimated from the patients' histories, they are not, of course, very reliable; but they do give an indication of the degree of bleeding which may be encountered. Of some significance is the fact that in this series, bleeding from a cervical lesion was not more than 500 cc. in any case, while in all cases of placenta praevia there was more than "spotting." Of the

CHART 2



five patients who bled more than 500 cc. prior to admission. four had placenta praevia and one had premature separation of the placenta. Among the 14 admissions for spotting only there were three cases of premature separation. About one-fourth of the patients with placenta praevia had bleeding of less than 50 cc., about one-half lost between 50 cc. and 500 cc. of blood, and the remaining one-fourth lost more than 500 cc. It may be stated as a rather rough conclusion that, as might be expected, the greater the bleeding the greater the likelihood that placenta praevia is the cause, and the smaller the bleeding the greater the chance that the patient has a cervical lesion or that the cause cannot be diagnosed. But the overlap of cases is so great that no diagnostic dependence should be placed on the degree of vaginal bleeding; consequently, extensive hemorrhage need not invariably lead to heroic therapeutic measures, nor, by the same token, should minimal bleeding be regarded too lightly.

The problem of "spotting" bleeding in the last trimester of pregnancy is, from a practical point of view, an awkward one. Moreover, it calls to attention the only objection of consequence which can be raised against the conservative observation regimen in the management of third trimester bleeding —its cost. Theoretically, bleeding of *any* degree in the third trimester should be treated as though caused by placenta praevia until proven otherwise. But in many patients who are near term, Braxton-Hicks contractions are strong enough to produce the discharge of a small amount of blood-tinged mucus from the cervical canal; undoubtedly this was the cause of bleeding in some of the undiagnosed cases in this series in which there was "spotting" only. Moreover, it is the common practice of obstetricians to perform rectal examinations near term to determine the cervical status and the station of the presenting part. The authors would venture the guess that about one-quarter of such examinations are followed within 24 hours by very slight bloody vaginal discharge resulting from the minimal cervical trauma. It is manifestly impossible to admit all such patients to the hospital. Good clinical judgment will determine which of them may safely be observed at home or examined by speculum in the office. But good judgment must include recognition of the dangers of cervical manipulation and the benefits of simple bed rest in third trimester bleeding.

And clinical judgment should never become so lax, or so warped by the patient's economic status, that hospitalization is not ordered when any appreciable bleeding occurs in the third trimester, even at term. Certainly a history of bleeding of more than a tablespoonful should, in any circumstances, be an ironclad indication for hospitalization. And even bleeding of less than this amount should be regarded with grave suspicion if it occurs suddenly without warning.

It is especially important to point out that 33 patients in this series gave a history of some bleeding in pregnancy prior to the episode which resulted in hospital admission. This point was often not revealed during the course of prenatal care, but only came to light on careful questioning at the time of entry. The fact that one-third of the patients in this series gave a history of slight bleeding in the first or second trimester of pregnancy is considered by the authors as admonition to be doubly vigilant for hemorrhagic accidents of late pregnancy in any case in which such seemingly minor signs occur during the course of prenatal care. Eighteen per cent of patients with placenta praevia, 25 per cent of those with premature separation, and 48 per cent of those with cervical lesions had such a history.

The extent to which the policy of conservative observation was followed is shown in Chart 3. In ten cases observation was not continued for even as long as a few hours, for the reasons noted on the chart. The single elective termination of observation must, unfortunately, be charged to the wavering of a worried staff member in his adherence to the principle. Thirteen patients were observed for less than 12 hours—in most cases simply because spontaneous labor began. Of greatest importance is the fact that in this series of 105 admissions only 3.8 per cent of patients continued to bleed during the

CHART 3

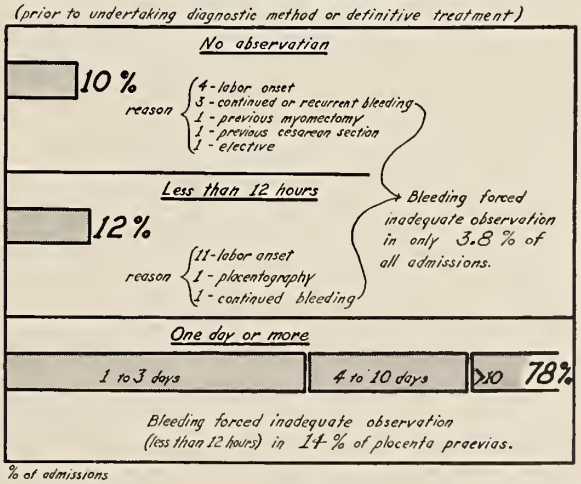
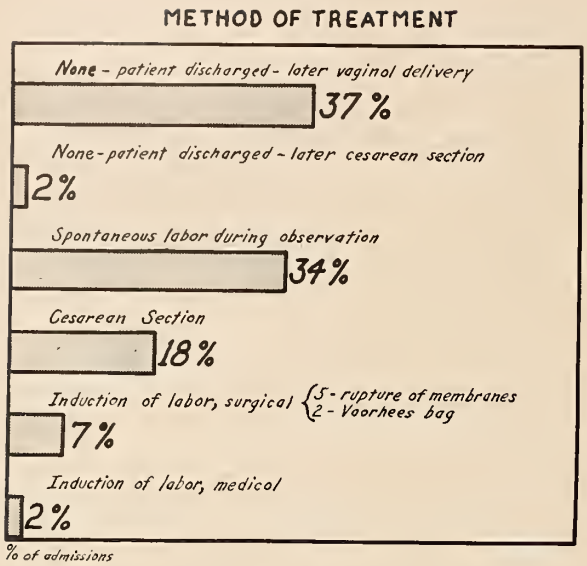


CHART 4



first 12 hours of observation to a degree sufficient to render definitive therapy mandatory. This is good confirmation of the statement made heretofore that in more than 95 per cent of cases of third trimester bleeding the bleeding will stop spontaneously if the conservative observation regimen is put into effect at the outset. In the case of patients with placenta praevia, as might be expected, continued bleeding caused termination of observation in a higher percentage of cases (14 per cent), but other factors also played a part in this decision.

As has been implied in the foregoing discussion, a prime aim of the conservative approach to third trimester bleeding is to avoid the use of cesarean section in the treatment of the condition unless it is adequately indicated. Chart 4, therefore, presents a breakdown of the methods of treatment used in the 105 admissions. It will be noted that cesarean section was required in only 18 per cent of admissions, a fact which ought to be enlightening to the general surgeons throughout the country who resort to cesarean section on the slightest indication, even minimal degrees of bleeding. It should be noted that in more than two-thirds of the cases no treatment at all was required and the patients were sent home or else began labor spontaneously during observation.

The hydrostatic bag was used only twice to induce labor after a diagnosis of placenta praevia had been made by sterile vaginal examination. Bags were used in two other patients in this series after the onset of labor. In general it is felt that the Voorhees bag is almost obsolete as a desirable method for the treatment of placenta praevia, but on rare occasions and in special circumstances (intra-uterine fetal death, for example) it may be the safest procedure for the patient.

One of the two cases in which the patient was discharged after an initial episode of bleeding and later had cesarean section is of especial interest.

CASE REPORT

The patient was admitted in the 34th week of pregnancy after having bled more than 50 cc. painlessly. In view of the small fetus, she was observed for 21 days before definitive diagnosis was attempted by sterile vaginal examination. This procedure was carried out under double set-up in the operating room. The examining house officer observed no cervical lesion and encountered a long rigid cervix, through the internal os of which he was unable to insinuate a finger without risking undue trauma. No bleeding was occasioned by this examination and the patient was ambulated without further bleeding. The case was classified as undiagnosed, and the patient was discharged to be followed at home. One week later the patient was readmitted after an episode of bleeding in which more than 500 cc. of blood was lost. Bleeding again ceased entirely on bed rest, and two transfusions brought the blood level up to normal limits. After five days of observation, sterile vaginal examination under double set-up was again carried out. On this occasion a definite diagnosis of placenta praevia was made. Delivery of a normal, living child that weighed 3,700 gm. was accomplished by cesarean section. The maternal postoperative course was afebrile.

An analysis of the 19 cesarean sections performed in the management of the 99 cases is presented in Chart 5. It will be noted that the operation was not required in any case in which there was "spotting" only. Undoubtedly this series is too small for this fact to be significant. It should also be pointed out that four of the 19 cesarean sections were indicated by conditions other than the one producing the bleeding (Chart 3)—three because of previous cesarean section, one because of previous myomectomy. It is noteworthy that two-thirds of the patients who had placenta praevia were treated by cesarean section, but of these 15 sections one was performed upon a patient who had had previous myomectomy. Cesarean section was required for only three of the 24 patients with premature separation of the placenta prior to labor. Delivery was by the vaginal route in four of the five cases in which low implantation of the placenta was diagnosed,

CHART 5

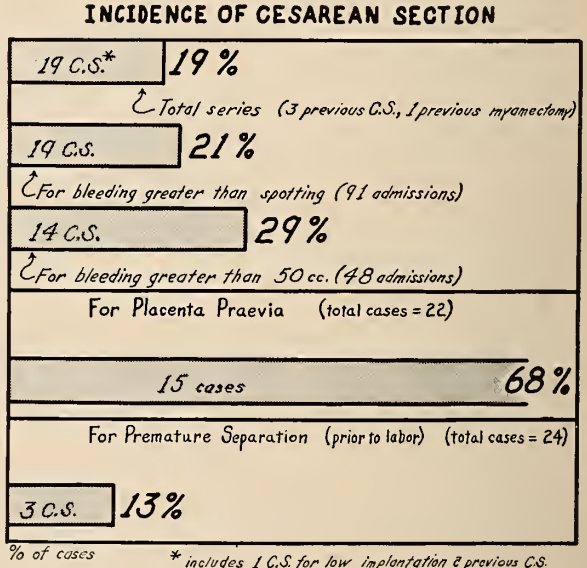


TABLE 1.—*Mortality*

MATERNAL = 0%

FETAL = 9 infants (of 101 total infants) = 8.9% gross fetal mortality

Term Mortality = 4 (of 88 term infants) = 4.5% term fetal mortality

Premature Mortality = 5 (of 13 premature infants) = 38% premature fetal mortality

(Birth weights = 1620 gms., 1740 gms., 1480 gms., 1620 gms., 1360 gms.)

Time of fetal death

Died in utero before entry (1 term, 1 premature)	2
Died in utero during observation (2 term)	2
Died intrapartum (2 premature)	2
Died neonatally (1 term, 2 premature)	3

and in the fifth case cesarean section was done because of the added indication of a previous cesarean section.

In 51 of the 105 admissions the conservative observation policy was pursued to its logical endpoint—sterile vaginal examination under double set-up. In the remaining 54 cases either spontaneous labor ensued without incident, placenta praevia was well ruled out by x-ray and sterile speculum examination was done, or cesarean section was performed without examination because of previous cesarean section. Regrettably, in the early years of this policy, one patient was sent home from the hospital without any examination purely on the basis of minimal bleeding with immediate cessation, no recurrence on ambulation, and other clinical features tending to rule out placenta praevia or premature separation. That case remains in the undiagnosed group, but it is the authors' contention that this is never a safe course to pursue.

RESULTS

Maternal and fetal deaths are shown in Table 1. In evaluating fetal salvage in these cases of third trimester bleeding it would seem permissible to correct for fetal death in utero prior to hospital admission; this occurred in two cases. Extreme prematurity is a problem of fetal salvage which is perhaps more pediatric than obstetrical, and it will be noted that the largest premature infant that died weighed only 1,740 gm. It may be said then, that in this series of 99 patients with third trimester bleeding, out of a total of 101 infants three were lost which were possibly salvageable, a corrected fetal mortality rate of 3 per cent.

In the 22 cases of placenta praevia four infants were lost, a gross fetal mortality rate of 18 per cent. This figure compares fairly well with those presented in the literature for the conservative management of placenta praevia, and it is considerably better than the usually reported fetal salvage for this condition when managed by immediate treatment (see Table 2).

TABLE 2.—*Placenta Praevia: Comparison of Immediate and Expectant Management*

	Cases	Fetal Mortality	Maternal Mortality
Generally accepted expectation	....	50–60%	5–10%
Johnson's series[1]	174	24%	0.6% (1)
Immediate management	47	47%	
Expectant management	47	6%	
Williams' series[2]	105	28%	0.9% (1)
Immediate management	64	38%	
Expectant management	41	12%	
Macafee's series[3] (all by expectant management)	191	22%	0.5% (1)

1. Johnson, H. W.: Am. J. O. & G., 50:248, 1945, Baylor Univ., Texas.

2. Williams, T. J.: Am. J. O. & G., 55:169, 1948, Univ. of Virginia.

3. Macafee, C. H. G.: Proc. Roy. Soc., 39:551, 1946, Belfast, Ireland.

Total morbidity for this series, by the standard obstetrical criteria, was ten cases or 10 per cent. In six of these cases, however, delivery was by cesarean section, so that the morbidity rate for vaginal delivery was 5 per cent. As the present obstetrical morbidity rate for this hospital is approximately 2.5 per cent, it is apparent that the complication of third trimester bleeding will at least double the morbidity rate of patients delivered vaginally. The morbidity rate for cesarean section in this series was 32 per cent, as compared with an overall cesarean section morbidity rate for the same seven-year period for this hospital of approximately 20 per cent.

REFERENCES

1. Eastman, N. J., Editor's Note: Obstet. & Gynec. Survey, 1:53, Feb. 1946.

2. Johnson, H. W.: The conservative management of some varieties of placenta praevia, Amer. J. Obstet. & Gynec., 50:248, Sept. 1945.

3. Macafee, C. H. G.: Placenta praevia—A study of 174 cases, Jour. Obstet. & Gynec. Brit. Emp., 52:313, Aug. 1945.

4. Williams, T. J.: The expectant management of placenta praevia, Amer J. Obstet. & Gynec., 55:169, Jan. 1948.

Pulmonary Segmental Resection for Solitary Lesions of Doubtful Character

Beatty H. Ramsay, M.D., *Los Angeles*

SUMMARY

Pulmonary cancer can be diagnosed earlier if patients with pulmonary symptoms of chronic type are given x-ray examination early, if patients over 40 years of age have a yearly roentgen examination of the chest regardless of their state of health, and if those with acute pulmonary illness are examined by x-ray within one month of the onset of illness.

Observation of a known intrapulmonary lesion of unknown character should never last for more than one month. If it persists after that period, complete investigation, including thoracotomy, should be carried out if necessary to establish an exact diagnosis. A localized intrapulmonary lesion can be removed by segmental resection so that all healthy functioning lung is conserved if the disease is benign. If, after pathological examination, the lesion is shown to be cancerous, more radical resection can be carried out.

BECAUSE of the possibility of malignant tumor, immediate further investigation is indicated in a case in which an x-ray film of the chest shows a small pulmonary shadow; but if the patient has no symptoms or practically none, the physician may be reluctant to advise immediate thoracotomy lest the operation lead to unnecessary removal of a lobe or of an entire lung. In such circumstances segmental pulmonary resection can be used to assure early diagnosis and removal of cancer if it is present, and at the same time conserve normal-functioning lung tissue.

Earlier discovery of pulmonary cancer, which at present is the only way to increase the salvage from this disease, is not difficult. Because physical examination cannot be relied on to reveal early cancer, chest roentgen films must be used freely. Ideally every adult over 40 years of age should have a chest roentgenogram or fluoroscopy once or twice a year. Certainly every patient in this age group who has a thoracic symptom ought to have this done at the *first* visit to a physician as an essential and routine part of the examination. Any patient with a known pulmonary lesion, the nature of which is not known, must have conscientious early reexamination by x-ray. A recent review by Overholt and Schmidt[5] emphasized that in cases of primary pulmonary carcinoma the period of delay before the patient reported for medical help averaged 3.8 months. The interval before the physician ordered a chest roentgen film averaged 1.6 months. Until this was done the correct diagnosis remained unsuspected. Even after the lesion had been discovered, there was usually another and consequential loss of time during which watchful waiting or antibiotic therapy was carried out. Thus the significance of a solitary pulmonary lesion was not fully appreciated and the total delay from the day of the first symptom to diagnosis averaged ten months.

Viral pneumonia, atypical pneumonia and patchy pneumonitis run their natural courses within three to four weeks. A similar clinical course can be produced by pneumonitis occurring distal to a bronchus obstructed by a cancer. The pneumonitis may clear if the obstruction lessens or as a result of antibiotic therapy. Concurrently the patient's clinical status improves. The difference between the primary and the secondary pulmonary infection is that whereas in the former the pulmonary changes nearly always disappear entirely within four weeks, in the latter residual density persists. The only way a persisting lesion can be recognized is by roentgen examination. There can be little justification for putting off a repeat chest film for longer than one month. If changes of any degree remain after that time, careful investigation including bronchoscopy, sputum studies for tubercle bacilli and other bacteria and fungi, and for tumor cells should be done. If the diagnosis is still indefinite, then immediate exploratory thoracotomy is indicated.

Although the term "exploratory thoracotomy" is glibly used in medical papers and discussions, the positive determination of the true nature of an intrapulmonary lesion by this means is not always a simple matter. When lymph nodes are involved they are easily removed for pathologic examination. If the lesion is on the surface of the lung, a specimen for biopsy can be readily removed. The earlier a lesion is, however, the deeper it is within the lung, and removing a specimen from deep within a lobe

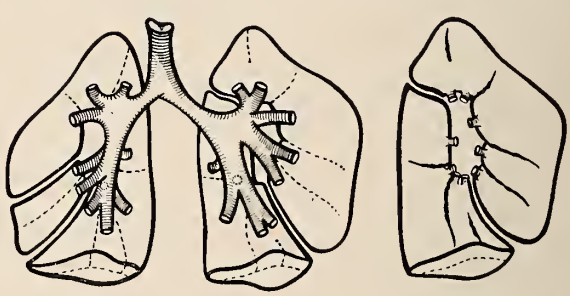


Figure 1.—*Left*—Diagrammatic representation of the lungs, showing in dotted lines the divisions into segments and the bronchial tree with the tertiary bronchi leading into individual segments. *Right*—A left lung, showing the individual segments separated by tapering lines. These represent the intersegmental veins which normally run in the planes between segments. A segmental bronchial stump is shown emerging from each segment.

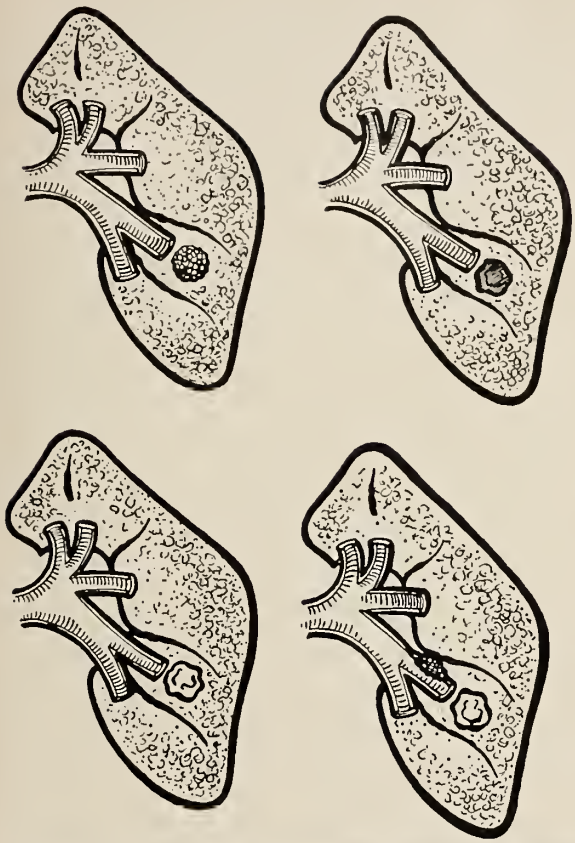


Figure 2.—Illustrating the common segmental diseases which can appear as a rounded area of density in the roentgen film. *Upper left*—A tumor mass, either benign or malignant. *Upper right*—A so-called tuberculoma. *Lower left*—A pyogenic abscess, primary. *Lower right*—A non-specific abscess distal to a partial obstruction of the segmental bronchus by tumor.

is more difficult, more traumatic, and more hazardous. A deeply situated lesion may be an abscess or a tuberculoma, and the biopsy procedure may cause dissemination of either pus or tuberculous material into the pleural cavity or the wound. Wedge-resection may be used to excise entire lesions for biopsy, which is preferable to removal of a small portion only. However, as wedge resection does not follow anatomic lines, the planes of section may include more than the diseased segment; and some of the diseased segment usually is left, traumatized and perhaps deprived of its blood supply. Although this is not necessarily unfortunate, it may be so. The segmental bronchus from a tuberculoma or tuberculous process is generally involved by tuberculous foci, and in pyogenic abscesses there may be a proximal bronchial obstruction produced by stenosis of an inflammatory or neoplastic nature. Removal of the involved segment with its vessels and bronchus not only removes all of the segmental disease, but it does so without injuring neighboring normal segments. Surgically it is a more precise and less traumatic procedure. Lobectomy involves the sacrifice of normal functioning lung and is usually unnecessary when the lesion is a benign one.

Recent improvements in the technical aspects of pulmonary segmental resection[1, 6, 7, 8, 9, 10] have sharply reduced the complications from this procedure. It can now be used freely for removal of any of the pulmonary bronchovascular segments. By this means a localized pulmonary lesion, found at thoracotomy and not suitable for direct biopsy, can be removed through anatomical planes and without contamination of the chest wall or pleura with pyogenic organisms, tubercle bacilli or tumor cells and without sacrifice of more than the one diseased segment. If immediate pathologic examination reveals malignant lesion a more extensive resection can then be done. If the disease is benign there has been very little loss of functioning lung tissue.

DISCUSSION

Two considerations deserve further discussion: the significance of solitary pulmonary shadows, and the importance of preserving pulmonary function.

Three recent papers well illustrate the facts about solitary pulmonary shadows. Grow, Bradford and Mahon[3] stated that in mass surveys of the normal working adult population, 1.4 per cent had x-ray evidence of reinfection tuberculosis and another 1.12 per cent had non-tuberculous abnormalities—a total of over 2.5 per cent with unsuspected intrathoracic disease. These investigators reported that in series of 200 exploratory thoracotomies carried out because of obscure intrathoracic disease, malignant tumor was proved in 21.5 per cent. Of 86 circumscribed pulmonary lesions, 23 per cent were malignant; of 35 lesions of atelectatic type, 35 per cent were malignant. The non-malignant lesions were of widely varied nature, but in all cases it was better to have them removed than left undisturbed. Effler, Blades and Marks[2] reported upon 24 selected cases, in each of which roentgen examination of the chest had been carried out during a routine physical examination, and in each of which a round pulmonary lesion was observed on the film. There were absolutely no symptoms in any case. The average age of the patients was only 35.3 years. When diagnosis was not established after careful hospital observation and every diagnostic effort, each case was presented at either the tumor board conference or the thoracic surgery conference at the Walter Reed General Hospital. In no case was there unanimity of opinion among the clinicians and radiologists present as to the true nature of the lesion, but in every case it was considered to be benign. Each patient was operated upon and there was no operative mortality nor postoperative morbidity. Although the average age of the patients was one at which malignant lesion is less likely to occur, approximately 15 per cent of the lesions proved to be cancer. Seven of the 24 lesions were tuberculomas. (The authors, as well as most other thoracic clinicians, believe that all tuberculomas should be excised.) All the other lesions were of kinds best treated by operation.

Johnson, Clagett and Good[4] reported upon 384

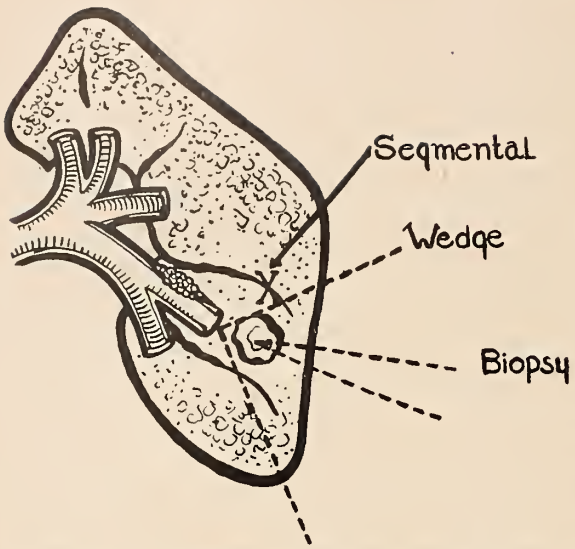


Figure 3.—A comparison of the three methods of removing a localized segmental mass. The narrow biopsy wedge may contaminate the pleura with organisms or tumor cells. The wider wedge resection effectively removes the localized mass but may not remove or reveal a proximal segmental bronchial lesion. The segmental resection, along the intersegmental planes, as illustrated by the tapering line above and below the segmental bronchus, removes the entire diseased segment. As pictured it would remove both the proximal obstructing tumor mass and the secondary abscess.

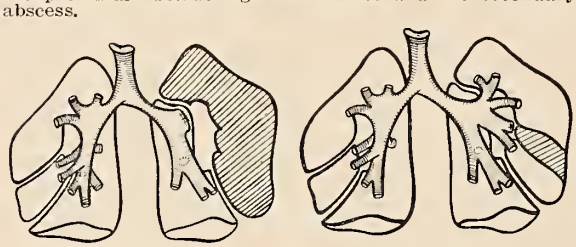


Figure 4.—*Left*—A diagrammatic illustration of the loss of lung tissue which results from lobectomy for a benign segmental disease focus. *Right*—The smaller amount of lung tissue removed by segmental resection when the disease process is benign and localized. Note the large amount of lung tissue which has been preserved.

patients subjected to thoracotomy by Dr. Clagett at the Mayo Clinic. After careful postoperative review of the records, they concluded that in 114 cases (30 per cent) the correct diagnosis could not have been made preoperatively although careful investigation was done in each case by all diagnostic methods then available. (This was before adoption of examination of the sputum for tumor cells.) Even after exploratory thoracotomy the lesions remained indeterminate in three cases. For purposes of study it was found convenient to divide the remaining 111 cases into three groups, one for mass lesions, another for bronchial obstruction lesions, and the third for miscellaneous lesions. Of the 53 mass lesions, 39 (73.5 per cent) proved malignant; of the 48 bronchial obstruction lesions, 24 (50 per cent) were malignant; of the ten miscellaneous lesions, two (20 per cent) were malignant. Thus, in 65 (58.5 per cent) of the 111 cases the lesions were malignant; and in 12 cases there were benign tumors. All of the 111 lesions were properly removed surgically. Johnson, Clagett and Good emphasized that occasionally bronchiogenic carcinoma may exist in the presence of a normal appearing chest roentgenogram. This serves to stress the importance of repeated x-ray investigation of persisting pulmonary symptoms.

Although the two lungs form impressive masses when viewed anatomically, there is no true reserve of pulmonary function. Even the activity of the adolescent and the young athlete is limited by the capacity of cardiorespiratory function. Surgical removal of lung tissue definitely restricts the patient's normal activities. Moreover, there remains the possibility of pulmonary diseases such as asthma, chronic bronchitis, tuberculosis, emphysema and bronchiogenic carcinoma as well as disease of the lungs' cardiorespiratory partner, the heart. These two groups of very serious and very common diseases often coexist. Therefore, unnecessary removal of one or more bronchopulmonary segments is to be avoided if possible.

Segmental resection may not be wise or may not be possible in certain nonmalignant conditions. In coccidioidomycosis there are often small granulomatous masses, containing mycelia, scattered throughout a lobe which contains in one segment a large granuloma or cyst. If several of these are palpable in the lobe, it may be better to remove the entire lobe. Certain cases of chronic pneumonitis, although affecting principally one segment, may also involve adjacent segments to a lesser degree. How much should be removed in a particular patient must depend upon the situation as it is found at thoracotomy. The basic consideration, however, is this: the unit of pulmonary resection should be the bronchopulmonary segment; one or more of these should be removed, depending upon the disease process, but functioning pulmonary parenchyma should be preserved whenever possible.

10962 LeConte Avenue.

REFERENCES

1. Clagett, O. T.: A technique of segmental pulmonary resection with particular reference to lingulectomy, J. Thoracic Surgery, 15:227, 1946.

2. Effler, D. B., Blades, B., and Marks, E.: The problem of the solitary lung tumors, Surgery, 24:917, 1948.

3. Grow, J. B., Bradford, M. L., and Mahon, H. W.: Exploratory thoracotomy in the management of intrathoracic disease, J. Thoracic Surgery, 17:480, 1948.

4. Johnson, C. R., Clagett, O. T., and Good, C. A.: The importance of exploratory thoracotomy in the diagnosis of certain pulmonary lesions, Surgery, 25:218, 1949.

5. Overholt, R. H., and Schmidt, I. C.: Survival in primary carcinoma of the lung, New England J. Med., 240:491, Mar. 31, 1949.

6. Overholt, R. H., Betts, R. H.: An improved method of resection of pulmonary segments, J. Thoracic Surgery, 17:464, 1948.

7. Overholt, R. H., and Langer, L.: A new technique for pulmonary segmental resection, S.G.&O., 84:257, 1947.

8. Overholt, R. H., and Langer, L.: The Technique of Pulmonary Resection, Charles C. Thomas, Springfield, Ill.

9. Overholt, R. H., Woods, F. M., and Ramsay, B. H.: Segmental pulmonary resection, J. Thoracic Surgery. In press.

10. Ramsay, B. H.: The anatomical guide to the intersegmental plane, Surgery, 25:533, 1949.

Undecylenic Acid in the Treatment of Psoriasis and Neurodermatitis

Lawrence M. Nelson, M.D., *Santa Barbara*

SUMMARY

Undecylenic acid in a dosage tolerated by most patients is of doubtful value in the treatment of psoriasis and neurodermatitis.

Thirty-one patients were given the drug. Exudative dermatitis developed in one case, generalized pruritus in another. One patient may have had a cardiac accident attributable to the drug.

THE reports of Perlman[4] and of Perlman and Milburg[5] have caused undecylenic acid to be widely used in the treatment of psoriasis and neurodermatitis. There have been few subsequent reports[1, 2, 6] on the efficacy of this form of therapy.

In the present study, undecylenic acid to be taken orally was prescribed in globules containing 0.44 gm. of the acid. Fourteen patients with psoriasis and 17 patients with localized neurodermatitis (lichen simplex chronicus) were treated. The daily dose prescribed was 15 to 24 globules, which was the maximum that the patients would tolerate. The patients were observed until they stopped taking the drug or until the effects of it were obvious. The period of observation varied from one to 10 months.

Of the 14 patients with psoriasis, none had clearing of the lesions which could be attributed to the taking of the acid. In one case the skin did clear coincidentally after the drug had been taken for two days.

Three patients were helped by the drug. One of these also received vitamin E concurrently, and another had improved on vitamin E but was no longer improving when undecylenic acid was prescribed, although vitamin E was continued.

Seven patients were not helped by undecylenic acid. The subsequent administration of vitamin E while the undecylenic acid was continued did not help four of these patients to whom it was given. One of the four became worse.

Two patients preferred psoriasis to the undecylenic acid.

One patient said she had a heart attack after taking the acid for only a few days. This could not be confirmed.

Of the 17 patients with neurodermatitis, one had complete clearing after taking undecylenic acid, and the skin remained clear for nine months. Undecylenic acid therapy was begun again when the condition recurred, and at the time of this report improvement again was noted.

Eight of the patients had temporary improvement of pruritus and five of the eight had temporary improvement of the dermatitis. Of the latter five, one had to discontinue treatment when severe nausea and generalized pruritus developed. Another of these patients was helped by undecylenic acid only when it was given in conjunction with Pyribenzamine,® vitamin A and local treatment.

Four patients were not helped by the drug and one became worse. In one case, reported in detail elsewhere,[3] exudative dermatitis developed.

Three patients discontinued treatment because of severe nausea.

30 West Arrellaga Street.

REFERENCES

1. Ereaux, L. P., and Craig, G. E.: Undecylenic acid in the treatment of psoriasis, Canad. M.A.J., 61:361, Oct. 1949.

2. Goldberg, H. C.: Undecylenic acid in the treatment of psoriasis, Arch. Dermat. and Syph., 61:661, April 1950.

3. Nelson, L. M.: Dermatitis medicamentosa due to undecylenic acid, J. Invest. Dermat., 14:75, Feb. 1950.

4. Perlman, H. H.: Undecylenic acid given orally in psoriasis and neurodermatitis, J.A.M.A., 139:444, Feb. 12, 1949.

5. Perlman, H. H., and Milberg, I. L.: Peroral administration of undecylenic acid in psoriasis, J.A.M.A., 140:865, July 9, 1949.

6. Warshaw, T. G.: Undecylenic acid by mouth of questionable benefit in a group of dermatoses, J. Invest. Dermat., 13:209, Oct. 1949.

A Diverting Medically Useful Life Hobby

Imitation, Self-Exploration and Self-Experimentation in the Practice of Medicine

C. M. Cooper, M.B., Ch.B. (Retired), *San Francisco*

IN my early years in the practice of medicine it was almost daily impressed upon me that I was a poor clinical observer, as in inspecting areas I would miss some little but perhaps important point that a confrere would immediately pick up. My defect was strikingly brought home to me one morning in an operating room when, looking at the masked face of a physician whom I had come to know intimately, I noticed for the first time a peculiarity of his eyes that must have been of long standing.

Realizing that if I were to get any satisfaction out of my work I must improve myself in this respect, I cogitated a good deal as to how I could best go about it. At length the idea struck me that inasmuch as while looking at a masked face I had observed something which had long escaped me, perhaps I could do it by inspecting the faces of my patients section by section.

Hence, I mentally divided the face into the upper face, which included the eyes and forehead; the midface, which included the nose and cheek bones; and the lower face, which included the mouth and chin. While inspecting one section I would cover the other two. Then I would inspect the face as a whole; and finally, covering one side of the face, I would inspect the other side; and vice versa. It was not long before I realized that I was perceiving small details in all these areas that previously I had failed to note.

After quite a time I began to catch expressions and, later, expressions within expressions which formerly had eluded me. Once I caught an expression, I was usually able to sense its significance. If I saw one, the significance of which puzzled me, I would photograph it upon my memory, and when I was alone I would go to the mirror and endeavor to assume it, and I would persist in the attempt until I felt I had gotten it. Then I would realize what inner feeling in me would have called forth such an expression, and therefore the inner feeling that in all probability had induced it in the individual who had exhibited it.

Becoming intrigued by the results of this imitative method of diagnosis, I began to imitate the tone, placement, and tempo of speaking voices. Again, after considerable practice, I found I could appreciate a previously unappreciated gamut of inflection and speaking tone values that seemed to reflect degrees of desire, fear, anxiety, etc., that at the time activated the speaker. It was as though I had acquired a new set of visual and auditory scales which could distinguish a whole range of small differences in things to which my former coarser scales had given equality.

Further, having in mind the changes in figure, posture, and gait that habit and disease can and do produce, I commenced to copy them, with the hope that I might come to have a better understanding of their whys and wherefores. I also assumed as far as I could the idiosyncrasies and behavior reactions of my patients, with the aim of not only discerning their why and wherefore, but also of distinguishing between the put-on and the genuine ones, and of discovering whether the hidden key to a complex was consciously or unconsciously withheld.

In due time, induced by revealing experiences with patients, I extended these activities into the imaginative and experimental fields. Thus I would imagine I had a particular symptom or ailment that puzzled me, and then see if I could uncover anything in my past that might cast a light upon it; or that I had a patient's crippling impairment for which he had not been able to evolve a helpful compensatory adjustment; and then try through self-experimentation to unearth one for him.

I thus acquired an appealing many-sided life hobby, in which I could indulge with ever-increasing educational profit. The recital of a few of the numerous incidents in which it played a part will, I hope, show that its pursuit was also clinically useful.

IMITATION

As I was walking along a street I saw in the block beyond a man with Parkinsonism coming toward me. As he stepped off the sidewalk he teetered forward and broke into a festinating gait. He passed me on the run, and I turned to watch him further. He traversed more than half a block before he was able to bring himself to a halt. Then he executed a maneuver which was new to me and also new to the neurologists to whom I related the incident. He placed his arms behind his back with the back of each hand on the corresponding buttock, and bent at the hip joints so that the palms turned upward. He then walked on as steady as a church. Bending my body forward and stiffening my arms, I imitated him. As my palms turned upward, back went my buttocks, and back went my weight on my heels. Appreciative of the balance thus obtained, I hurried back after him. He had devised the trick for himself. I passed it on to other persons with Parkinsonism whom I later saw, not one of whom had been ingenious enough to evolve it.

A man said he had been told he had a stone in his left kidney, and this the roentgenogram confirmed. In the course of conversation he added that he had also had an attack of renal colic on the right side. As the radiographer had reported that there were no stone shadows on that side and as the findings were somewhat equivocal, I suggested that these pains might have been of gallstone origin. He thought not, as the assumption of a like body position had given him considerable relief in both instances.

I asked him to show me the relieving position. He got down on his hands and knees and inclined his body. I did the same, imitating his every movement. The posture I had assumed seemed more calculated to afford some relief in pains of kidney than in those of gallbladder origin. A consequent rescrutiny of the films revealed three small faint shadows lying within and obscured by a rib shadow. An x-ray recheck with a shift in the tube indicated that they were, as they turned out to be, the shadows of three small kidney stones.

SELF-EXPLORATION

I was asked to see in consultation a man in the prime of life with pneumonic patches in both lungs. He was blue, distended, and dyspneic, but notwithstanding the distress consequent upon shortness of breath, he resented the time I spent in examining his chest and other structures, and kept on exclaiming that there was a man in the forepart of his head who was hammering him to death, and that the hammer blows would soon kill him if he were not relieved of them.

As I watched him hold his head and moan as he coughed, it came to mind that some years before I had had a felon which until free drainage was provided, had given rise to severe throbbing pains to which the term hammer blows could well be applied. This patient, then, had what was equivalent to a felon in the forepart of his head. His movements and reflexes were not impaired. It must be outside his cranial cavity. His upper or posterior sinuses must be chock-a-block with matter, the tension of which was being increased with the heart beats and when he coughed.

A nose and throat specialist was called in. He found nothing to support the suggested explanation of the hammer pains. Nevertheless, and although he said the nasal mucosa was not swollen, he consented to shrink it as completely as possible, in the hope that if the surmise were correct, he might thus bring about some drainage of the pent-up matter. His persistence in this endeavor was rewarded for, as he was on the point of withdrawing the speculum, some matter began to ooze down. He continued with the applications; more and more drainage occurred. Before the specialist left, the hammer pains had lessened in intensity and, after a few such daily treatments, ceased. In due time the pneumonic patches resolved.

A patient had been operated upon abdominally and a postoperative ileus had developed. A small tube had been passed through the mouth into the stomach, and continuous gastric drainage established. In a moment of distress the patient pulled out the tube and refused to have it repassed, either through the mouth or through the nose. Distention increased and the patient became quite disoriented. Although he was informed of what would surely happen if gastric drainage were not reestablished, he was adamantine in his refusal of it. The question arose, did I know of any way by which, if I were afflicted as he was and beyond the reach of reason, I might be induced to take the tube? Yes, perhaps I could be shamed into doing it. And if I could be, so probably could he. With only this thought in mind, and as the patient with tense jaw muscles glowered at me, I entered a tube into the more open of my nasal passages and pushed it on until it reached the stomach. With it in position I sat by his bedside until his jaw muscles had relaxed. Then I told him that if he were the man I took him to be, he would now permit the passage of the tube. This he soon did. Gastric drainage was reestablished. The distention gradually abated, his mind cleared, and he rapidly became convalescent.

SELF-EXPERIMENTATION

Some forty years ago as I was walking up a steep incline, I was suddenly seized with an agonizing constricting upper chest pain. My chest became locked, and I broke out in a cold sweat. Feeling faint, I leaned against a neighboring wall. After what seemed quite a while my chest relaxed and I was able to breathe normally. I remained leaning against the wall until the pain had somewhat abated. Then I slowly retraced my steps and went home. From that time on, I experienced a similar but much lesser pain whenever I walked up an incline, and I would have to stop at intervals until it subsided. To my surprise, however, I had no pain on walking up flights of stairs. While musing on this seeming incongruity, I learned of a woman who experienced a similar pain on walking up inclines, who had consulted a physician who had given particular attention to cardiovascular problems. He had walked with her up several flights of stairs. As she experienced no pain, he advised her that her complaint was of a functional nature; and I am free to confess that I would have told her the same, had it not been for my own experience. The woman, however, died within a week or so in a typical anginal attack.

From that time on, I asked my patients who had anginal symptoms regarding their experience. Quite a number informed me that although they had pain on walking up inclines, they could walk up stairs without chest distress. Intrigued, I experimentally walked slowly up many inclines and many flights of stairs. I found my manner of progression was considerably different in the two cases. In walking up inclines I advanced each leg alternately from the hip, cocked the toe of the advancing leg, and more or less stiffened the corresponding knee joint. In walking up stairs I kept all my joints slack and raised the knees and heels, the consequent leg action being

somewhat of a pumping nature. By using this method of progression when walking up inclines, I found I could go up many of them without having to stop on the way because of chest pain. I also discovered that by keeping all my joints slack and thereby preventing the muscles which passed over them from becoming tense, I could indulge to a degree, without distress, in activities otherwise barred to me. As a corollary, I found that in trying to elicit a refractory patellar reflex in a patient, the instruction to let the corresponding knee and ankle joints go completely slack, thus slackening both the corresponding thigh and calf muscles, was much more serviceable than the use of the Jandrassik or any other reinforcing maneuver.

A woman suffering from coccydynia had so much pain on attempting to rise from a chair that she had to be lifted out. Through self-experimentation the following method of rising was devised for her: She was instructed to bend forward, to place her toe regions together and to separate widely her heels—a foot position calculated to prevent the perineal muscles from contracting and tugging on the coccyx—to come off the chair so postured, then to straighten herself. She rose without pain, glad, she said, to be relieved of being such a nuisance.

In the following case which nonplussed me, the patient himself through self-experimentation confirmed a suggested diagnosis and the efficacy of the suggested treatment.

He, a urologist, complained that he was awakened every night by a most nauseating taste odor, and that he had to get up and wash out his mouth before he could go to sleep again. I was unable to determine the cause or the origin of the odor, as had been a number of physicians and specialists whom he had consulted. Two years later he informed me that he had read an article by Boas in which Boas advanced that such a symptom was apt to be due to the decomposition of debris that had collected on the back of the posterior part of the tongue and in the trenches of the circumvallate papillae. The urologist had attached a piece of gauze to a stout thread, put the gauze far back in his mouth, fixed the thread on the outside in such a way that the gauze could not travel backward, then had gone to sleep. He was awakened as usual. Pulling out the gauze, he found it reeked of the offensive odor; and he said that anaerobic cultures made from the gauze gave off this odor. Repeated swabbing with pledgets of absorbent cotton soaked with peroxide of hydrogen, as advocated by Boas, relieved the condition. This story caused me to purchase some Japanese tongue scrapers for use in suggestive cases.

It was some years before one came my way. The scraping from the back of the patient's tongue revealed the offensive odor, and applications of peroxide of hydrogen rid him of it.

The following case was one of many in which these hobby activities permitted of discernments which were immediately regarded by those concerned as having been of telepathic or extrasensorial origin.

The wife of a visiting Englishman was referred to me by his business associate. She was in late middle life and, apart from some occasional urinary leakage, was in excellent physical condition. In finishing my talk with her, I asked her if she minded telling me why she, who had had such a happy life, was then so miserable. A trifle haughtily she replied that no physician whom she had previously consulted had ever asked her such a personal question.

"But is it not so?"

"As a matter of fact it is."

"If you care to confide in me, I may be able to help you."

"Well, since you have read my mind, I will," she rejoined, and continued, "My husband and I were for years not only man and wife but also good pals. Wherever he went, on business, sporting, or sightseeing trips, I went, and I was always ready at a moment's notice to accompany him. But since I have been bothered by this leakage, I have to make many changes, and I am frequently keeping him waiting. Not appreciating my difficulty, he becomes annoyed. I become agitated, more leakage occurs, and further delay ensues; and I am afraid our happy comradeship is a thing of the past."

I asked her to give me a little time to think over her problem.

That day on entering the luncheon room in a club, I saw, sitting with the man who had sent the patient to me, an Englishman who looked as though he had never been ill a day in his life. I went over to their table ostensibly to greet my friend. On seeing me he remarked to the Englishman, "This is the doctor to whom I referred your wife." The Englishman said that his wife had spoken of me, and then added, "Nothing wrong with her, of course." A trifle nettled by his seeming indifference to her annoying difficulty, I rejoined, "Nothing of serious import, but something that makes a woman of her type miserable unless she can give it all kinds of attention."

"What did you say?" he ejaculated. I repeated my remark, and I could see that I had somewhat jarred him.

A few days later his wife came to say goodbye. As she approached, I remarked, "I am glad you are happy again."

"So you know. I told my husband you would," she replied, and continued, "but let me tell you what happened. My husband came back from lunching at your club and said that he had met you, and had been made to understand how inconsiderate he had been, and that he wanted to assure me that in the future I would have no cause to complain of him in that respect and that on our return I should consult the specialist whose name you had given me."

The explanation: In inspecting her face in the manner outlined, I had noted that its set and lines indicated that she had had a happy life, but that her eyes, which betokened her then state of mind, were full of misery. When she returned they gleamed with happiness.

Although I retired from the practice of medicine some years ago, I still keep up my hobby activities, and by reason of them scarcely a week passes without my being able to make some little but much appreciated suggestion to an ambulatory ailing one. To illustrate with a few recent instances:

A man with sacrolumbar difficulty said his game of golf was being ruined by reason of the restraining harness he had to wear while playing. He much appreciated being told that if he would stand with his feet and knees much closer together, he could probably play without the support, as he could then rotate without any movement occurring in his sacrolumbar region. This he found he could do, and by doing it achieved, I may add, longer and straighter shots.

A man with a heavy cast on his right leg was laboriously advancing this leg as he walked. He appreciated the suggestion that he carry the corresponding shoulder forward and pull the encased leg after him.

A former patient, recovering from an attack of gout in the metatarsal region, flinched at every step. The suggestion that he hold his shoulders back and walk on his heels enabled him to walk without distress.

A telephone girl was as hoarse as hoarse can be. Compressing her lower chest laterally, I informed her she should so firm it while using the phone, as she would then hold her voice up and carry it forward, thus taking quite a little strain off the laryngeal tissues. Next morning she told me she had not thought such a simple thing could have helped her so much.

A woman with flabby throat tissues had been advised to gargle with an astringent solution, but she had never been able to learn how to gargle. "Stiffen your tongue," she was told. She could then gargle satisfactorily.

Elementary as these simple hints may seem, they were both new and helpful to those to whom they were given.

In concluding I would say to any unobserving young doctor that I believe he, too, would reap, as I have reaped, both pleasure and profit from persistently indulging in the activities I have outlined.

2100 Jackson Street.

Roentgen Diagnosis of Intra-Abdominal Hernia

A. Justin Williams, M.D., and Fred L. Hewes, M.D., *San Francisco*

SUMMARY

The primary radiologic evidence of intra-abdominal hernia is disturbance of normal small intestine arrangement. Loops of intestine are crowded together as if in a bag, giving the appearance of clumping or sacculation. Dilatation and loss of mobility may occur with varying degrees of stasis. Displacement of viscera or pressure deformity may be observed.

Studies of the small bowel are necessary to demonstrate these conditions and must be made with the patient in the erect as well as the horizontal position. Repeated studies may be required, and the best time to make them is during an acute attack, as the hernia may be temporarily reduced during a remission.

The clinical symptoms are sufficiently characteristic to suggest the diagnosis in most cases. The usual history is of repeated attacks of abdominal pain or discomfort, usually accompanied by distention, varying in periodicity and intensity, with or without nausea or vomiting, and not accompanied by laboratory data or clinical signs indicative of inflammatory disease.

Similar or identical clinical and roentgenologic evidence may be produced by torsion of the small bowel or by peritoneal adhesions.

The hernia or torsion may reduce spontaneously before or at the time of operation. Therefore, a careful search for abnormal fossae, mesenteric defects or adhesive bands is necessary if herniation or torsion is not found.

INTRA-ABDOMINAL or internal hernia was first described by Hensing[6] in 1742 and was later established as a clinical entity by Treitz in 1857. Moynihan[11] in 1899 described nine possible fossae in the duodenojejunal region as potential sites for small bowel herniation. Kummer[7] in 1921 reported the first case diagnosed roentgenologically before operation, and since then other case reports by Case,[1] Exner,[3] McCarty and Present,[8] Reeves, Moran and Jones[12] and Taylor[14] have appeared in the literature.

Intra-abdominal hernias and torsion of loops of small bowel may be similar in the symptoms they cause and in roentgenographic appearance. They need to be kept in mind, for clinician and radiologist can easily overlook them. Differentiation one from another is less important, for both require surgical exploration, and the surgeon in every case has to search carefully both for pockets and for adhesive bands. A hernia may have escaped and the torsion may have uncoiled, so he must also search for telltale residual evidence of obstructions no longer present. Cases 1 and 6 (reported herein) are examples of hernia and torsion spontaneously reduced before or at the beginning of operation. In Case 4 the roentgen appearance of both situations was observed, first with bowel in the sac and then with hernia spontaneously reduced and normal bowel pattern restored.

Internal hernias are not common, but the actual incidence is not known. Watson[12] found three in 1,600 autopsies, Mitchell[7] one aperture in the mesentery, a potential hernia, in 400. Among 467 reported cases, Hausmann and Morton[4] found 52 transmesenteric (14 ileocecal and 38 ileal or jejunal mesenteric) hernias. Such hernias are the least common cause of acute intestinal obstruction. McIver[6] reported only three (0.9 per cent) in a series of 335 cases.

Most paraduodenal hernias have an underlying congenital developmental variation as a predisposing factor. Congenital anomalies, injury and infection are discussed by Cutler and Scott[2] as possible causes for transmesenteric hernias. No doubt any one of these factors may play a part in any particular case.

Presumably many go undetected. To find them a physician must be alert to symptoms and ready to order special roentgen studies. None of the eight diagnoses herein reported was made on routine gastrointestinal examination.

The histories in the cases presented, which include three cases of small bowel torsion, are remarkably similar except for duration (the longest extended over a period of some 30 years, the shortest, three months):

(a) All the patients complained of intermittent epigastric discomfort or pain of long standing, difficult to localize subjectively. Appendicitis or duodenal ulcer had been suspected in some cases.

(b) Most of the patients had intermittent gastric distention, often aggravated by changes in position. In two cases there was epigastric tympany. In one case the patient noted that upper abdominal discomfort and pressure increased when swimming.

(c) Nausea and vomiting were unusual.

(d) Some patients had constipation in some degree, increased during attacks.

(e) In most cases, symptoms were episodic, lasting a few hours to several months and with varying periods of remission.

Presented before the Section on Radiology at the 79th Annual Session of the California Medical Association, April 30-May 3, 1950, San Diego.

(f) In all cases the nutrition was good and the results of laboratory studies were normal. Some of the patients were considered psychoneurotic.

Normally, the small bowel fills the lower half of the anterior abdominal cavity uniformly, extending laterally into each flank where it is bounded by the colon, then downward into the true pelvis, and posteriorly to or (rarely, when standing) beyond the anterior margin of the spine (Figure 1).

In internal hernia a length of small bowel is found "clumped as if confined in a sac" (Golden[4]). This is usually more apparent when the patient is erect. These loops of bowel, which may be distended, usually cannot be separated, but can sometimes be moved in toto by external pressure. This sacculation may be large or small, depending upon the length of included bowel, and may vary in location depending upon the site of herniation (the site may be impossible to localize but may be suspected from the location of the loops of clumped bowel). The one reasonably reliable sign is found in right paraduodenal herniation, where the duodenum extends directly to the right rather than following its usual curve to the left. Displacement or pressure deformity of neighboring viscera may occur. The speed of travel of the barium meal may be retarded; but this is of little diagnostic value, unless protracted, because of great individual variation in normal subjects.

In addition to torsion, a congenitally short mesentery, congenital malrotation of the small bowel and possibly masses of small bowel matted together by inflammatory adhesions (Case 8) may produce confusing findings. A similar appearance might be produced by a short mesentery which could prevent the descent of the small bowel into the pelvis, but not into the flanks. This has not occurred in the authors' experience. Studies with the patient in the erect position should eliminate this possibility of error in diagnosis.

Although congenital nonrotation of the small bowel could give rise to confusion, this condition should be ruled out easily if the colon is visualized during the examination and found to be in a normal position.

Serial studies of the small bowel are practically always necessary. None of the cases herein reported was diagnosed during routine gastrointestinal examination. The usual procedure is as follows:

1. One hour before initial fluoroscopic examination, 4 ounces of liquid barium mixture is given.

2. At the time of fluoroscopy 2 to 4 ounces of liquid barium mixture is given, the amount depending upon the speed of movement of the first meal.

Figure 1.—The small intestine, viewed in erect lateral and anteroposterior projections, occupies approximately the lower half of the abdomen, practically all anterior to the spine; and, except for the duodenum, only occasional loops extend behind its anterior margin. The ileum lies well down in the pelvis, extending posteriorly, following the curvature of the sacrum.

It is desirable to fill a continuous long segment of small bowel with barium; this is more easily accomplished by giving a fractional meal.

3. After the first observation, the descent of the meal may be accelerated by giving ice water or isotonic salt solution, as described by Weintraub and Williams,[16] thus reducing the time necessary for the barium to reach the cecum to three hours or less, rather than the usual four to six hours.

The patient should be studied fluoroscopically anteroposteriorly and laterally in both erect and horizontal positions. The findings are usually more apparent with the patient erect, and may be completely masked in a horizontal position. Lateral studies in the horizontal position are of practically no value as the small intestine usually gravitates into the dependent part of the abdomen, effectively masking all significant findings. In some instances, horizontal anteroposterior studies are more informative. Anteroposterior and lateral film studies, usually with the patient erect, are made as indicated or desired at any interval.

The small bowel enema, described by Shatski,[13] permits more detailed continuous study in a shorter time. Filling, from the duodenum to the cecum, usually requires from 20 to 30 minutes.

When the preoperative diagnosis has been made, the surgeon must look for sites of herniation or adhesive bands, and in the event that neither is found, he must make a most painstaking search for openings in the mesentery or structural abnormalities which would allow herniation. He must bear in mind that the hernia or torsion may reduce spontaneously during the interval between the diagnosis and operation (as it did in Case 1, and as may have occurred in one other case in which no cause could be found for the symptoms or for abnormality observed in x-ray studies). The possibility that the hernia might be reduced inadvertently during exploration must also be considered.

CASE REPORTS

Case 1: A 22-year-old male complained of periodic attacks at irregular intervals for years of cramping epigastric pain or discomfort and distention, varying in severity, sometimes accompanied by nausea. Vomiting occurred only a few times during the more severe attacks. Constipation usually occurred during an attack, and relief was followed by increased bowel movements, but never diarrhea.

Never, so far as he knew, had the patient had abnormal temperature, and it was only this and normal blood cell counts that had prevented appendectomy on two separate occasions. Upon physical examination, only mild mid-abdominal distention and tympany were noted during an attack, and when symptoms subsided no abnormality was noted. Serial roentgen studies of the small bowel revealed clumping of multiple loops of jejunum in the mid-abdomen, without distention or delay in descent of the meal (Figure 2).

Operation was carried out six weeks following roentgen diagnosis of internal hernia. Shortly before operation there was one severe attack which lasted but a few hours and terminated abruptly. Herniation was not found at operation, but there were many recent petechial hemorrhages over the red and injected surface of the duodenum and upper jejunum, and around the margins of the foramen of Winslow, which was closed by fresh adhesions. The surgeon believed that this evidence warranted the conclusion that a herniation through the foramen had recently reduced spontaneously.

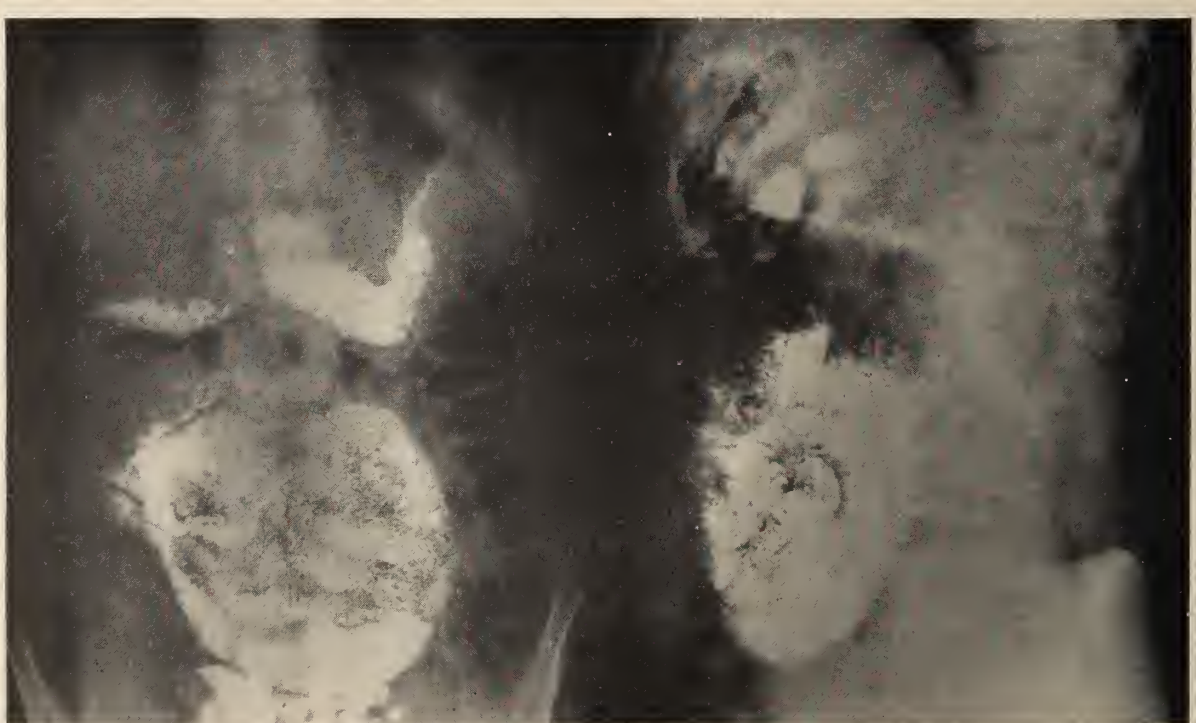


Figure 2.—Hernia through the foramen of Winslow. The loops of small bowel are clumped in the center of the abdomen as if within an invisible sac. The loops show slight distention. The barium moved through the gastrointestinal tract normally.

The patient was completely relieved of symptoms, and when x-ray examination was made later, the small bowel distribution within the abdomen was normal.

* * *

CASE 2: A 34-year-old housewife complained of recurrent pain in the right side of the abdomen for four or five weeks, with increasing nausea and vomiting. The pain, cramping and intermittent, lasted for periods of from a few hours to days. The nausea increased with the duration of the attacks, which were not related to food, bowel activity or any other apparent cause. There was no loss of weight or disturbance in bowel habits. On examination, tympany and tenderness high in the left hypochondrium were noted. No masses were palpable.

Roentgen findings were sacculation of loops of small bowel in the mid-abdomen. The diagnosis was internal hernia (Figure 3).

At operation, "several loops of jejunum were found protruding through an opening in the mesentery high in the left near the midline." The involved loops showed thickening of the walls and gaseous distention, with darkened constricted areas at the proximal and distal ends. The herniated bowel was delivered by traction, with no appreciable difficulty. The rent in the mesentery was sutured to prevent future herniation. The patient when observed three months later had no symptoms or abdominal tenderness.

* * *

CASE 3: The patient, a laborer 50 years of age, complained principally of pain and discomfort in the left upper quadrant over a period of several years, although he was able to do heavy work during the entire period with no loss of body weight. There were no previous abdominal operations. Disease of the left kidney was suspected, but results of urological studies were normal.

X-ray studies showed several loops of small bowel in the left upper quadrant which maintained a constant configuration of clumping with the patient in both the supine and erect positions. At one examination, upright lateral views showed changes in the position of the loops although they retained the appearance of envelopment. A diagnosis of paraduodenal hernia was made (Figure 4).

Symptomatic treatment with supportive belts did not relieve the discomfort. Operation one year later revealed a left paraduodenal hernia containing about eight feet of slightly distended, gas-filled, injected jejunum. A large urachal stalk surrounded by a thick band of fat was also demonstrated. This structure separated the lower abdominal cavity into the right and left compartments, but the lower small bowel was free. When x-ray examination was carried out three months later, the small bowel pattern was normal and the patient was asymptomatic.

* * *

CASE 4: A 26-year-old woman had had recurrent attacks of dull aching pain across the mid-abdomen, not cramp-like in nature, for nearly a year. The frequency of attacks had increased during the past six months. The patient had had no nausea, vomiting or constipation. Epigastric pain, which came on about two to three hours after meals and was worse in the early evening, had begun five days previously. There was no flatulence, eructation or heartburn. Upon examination, only mild tenderness in the epigastrium was noted. An active duodenal ulcer was observed roentgenographically. The duodenum extended directly to the right from the cap, and loops of jejunum were drawn upward and to the right, forming a clump of small bowel in the region of the gallbladder (Figure 5).

Operation has not been performed, but the history and characteristic roentgen findings warranted diagnosis of right

Figure 3.—Transmesenteric hernia. The duodenum and upper jejunum follow a normal course. The greater part of the jejunum is clumped in the central part of the abdomen, and extends far behind the anterior margin of the spine. The lateral view illustrates how the barium in the colon obscures the lower small bowel.

Figure 4.—Left paraduodenal hernia. The film at the left shows clumping of jejunum in left side of abdomen. Loops of ileum in normal position. The film at the right, taken five days later, shows many loops of jejunum in the right mid-abdomen, with few remaining in the left, and with loss of appearance of sacculation. This illustrates the possibility of spontaneous reduction of a hernia.

Figure 5.—Right paraduodenal hernia. The duodenum courses directly to the right from the cap. Most of the jejunum lies in the right side of the abdomen, the ileum in a fairly normal position. In the lateral view, many loops are seen to lie behind the anterior surface of the spine. (The anteroposterior view was taken with the patient in a supine position.)

paraduodenal hernia. The duodenal ulcer was no doubt responsible for the onset of additional symptoms five days before examination.

* * *

Case 5: A 35-year-old housewife had occasional abdominal cramps and gnawing pains, relieved by food. The onset followed an operation for tubal pregnancy 15 or 16 years previously. The patient had no nausea or intestinal bleeding. The symptoms were suggestive of peptic ulcer, but were relieved only temporarily by treatment. There were no significant physical findings, except generalized tenderness in the upper abdomen with slight distention and tympany. Slight hypochromic anemia was noted but other results of laboratory studies were normal.

In repeated x-ray studies the characteristic appearance of envelopment of a large portion of the small intestine in the left upper quadrant was observed. A diagnosis of internal hernia was made. Upon surgical exploration, approximately the upper two-thirds of the small bowel was found to be contained in a pseudo-sac formed by adhesion of the greater omentum to the upper part of the old midline incision, with the skirt of the omentum pulled upward and rotated counterclockwise and to the left. This was corrected. There were no anomalies other than congenital shortening of the lesser omentum. The patient was asymptomatic during a follow-up period of 18 months.

* * *

Case 6: A 37-year-old, healthy-appearing woman complained of recurrent attacks of upper abdominal pain, gaseous distention and vague indigestion dating from an accident ten years previously followed by a hysterectomy which apparently was necessitated by the injury. Past history was otherwise not significant, and results of laboratory studies were normal.

The only abnormality noted in physical examination was poorly localized tenderness in the mid-abdomen, which was soft.

A clumping of loops of small bowel in the left mid-abdomen was observed in roentgen studies (Figure 6). Motility was delayed, but no barium remained in the small intestine after 24 hours. A preoperative diagnosis of partial obstruction of the jejunum by an internal abdominal hernia was made.

At operation the surgeon found, free in the left upper quadrant, a thickened edematous loop of jejunum corresponding to the loop noted during the x-ray examination. Two sharply demarcated lines of constriction at the proximal and distal ends of the loop indicated recent incarceration. There was a thick adhesion between the anterior abdominal wall and the left side of the omentum. This was removed. Both the surgeon and the consulting pathologist believed, from its appearance, that the involved loop of jejunum had escaped from torsion around the adhesion after the administration of the anesthetic. The patient was free of symptoms for an eight-month follow-up period.

* * *

Case 7: A 44-year-old male complained of intermittent attacks of pain in the right side of the abdomen for three to four years. The attacks were initiated by momentary stabbing pain in the right upper abdomen without radiation, followed by dull aching over a much larger area under the right costal margin and just beneath the right twelfth rib posteriorly. Such spells might last a few hours or for two or three days. The pain came on at various times of day, especially after hard work, and would sometimes waken the

Figure 6.—Torsion of small bowel around an adhesive band. The distended loops of small bowel in the left abdomen are clumped, producing an appearance of sacculation. Barium was retained within this area over six hours.

patient at night. There was loss of appetite, but no nausea, fever, chills, change in bowel habits, indigestion, urinary symptoms or aggravation by coughing or sneezing.

In two x-ray studies of the bowel, dilated, clumped loops of jejunum in the left upper quadrant were observed. The conclusion after each examination was internal hernia.

At operation, two weeks after the last x-ray examination, a moderate-sized adhesive band was observed between the left lateral abdominal wall and transverse mesocolon. Torsion of the bowel around it could easily have taken place. The band was freed. No site for herniation was found. On x-ray examination following discharge from the hospital, the small bowel pattern was found to be normal. The patient was symptom-free for a two-year follow-up period.

Cases 5, 6 and 7 illustrate two important factors in the diagnosis and surgical correction of such conditions: First, the similarity of x-ray findings in torsion of the small bowel to those of internal hernia produced by congenital defects; second, the possibility of spontaneous reduction of the herniation or torsion before or during anesthesia.

Case 8: A 43-year-old male complained of abdominal pain, of three months' duration, to the right of the midline without radiation. At the onset it was burning in nature, but for the previous six weeks, had been "a continuous uncomfortable feeling." It was aggravated by getting up from a sitting position and by most foods. Slight relief was obtained from soda or milk. Upon physical examination slight voluntary guarding of the abdomen was noted. The temperature was 101° F. Results of routine laboratory studies were normal. Reaction to a tuberculin skin test was positive at dilution of 1:100,000. No abnormality was observed in an x-ray film of the chest.

In an x-ray examination of the abdomen, clumping of the small bowel in the mid-abdomen similar to that seen in Case 1 (Figure 2) was observed. Motility was normal. The preoperative diagnosis was intra-abdominal hernia.

Upon exploratory laparotomy it was noted that there were extensive adhesions of the omentum to the parietal peritoneum, which was inflamed and studded with multiple small nodules. A large amount of cloudy thin fluid was present. The diagnosis of tuberculous peritonitis was verified by omental biopsy. The surgeon reported that because of disease and extensive adhesions, he was unable to explore the abdomen completely, and could neither affirm nor gainsay the presence of hernia. (This case is reported, even though not confirmed, to illustrate another possibility of differential diagnosis.)

450 Sutter Street.

REFERENCES

1. Case, J. T., and Upson, W. O.: Roentgenological aspects of various types of hernias, J.A.M.A., 87:891-898, Sept. 18, 1926.

2. Cutler, C. D., and Scott, H. W.: Transmesenteric hernia, Surg. Gyn. and Obst., 79:509-515, Nov. 1944.

3. Exner, F. B.: Roentgen diagnosis of right paraduodenal hernia, Am. Jour. Roent., 29:585-599, May 1933.

4. Golden, R.: Diagnostic Roentgenology, Thos. Nelson & Sons, 1941.

5. Hansmann, G. H., and Morton, S. A.: Intra-abdominal hernia, Arch. of Surgery, 39:973-986, Dec. 1939.

6. Hensing, F. W.: Quoted by Watson.[15]

7. Kummer, E. J.: J. Radiol. Elect., 5:362-364, 1921.

8. McCarty, R. B., and Present, A. J.: Mesenteric pouch hernia simulating paraduodenal hernia, Surg. Gyn. and Obst., 8:643-648, June 1944.

9. McIver, M. A.: Acute intestinal obstruction, Am. Jour. Surg., 19:579-596, March 1933.

10. Mitchell, L. J.: Strangulated internal hernia, through a mesenteric hole, Annals of Surg., 30:505-506, Oct. 1899.

11. Moynihan, B. G. A.: Retroperitoneal Hernia, London Bailliere, Tindall & Cox, 1899.

12. Reeves, R. J., Moran, F. T., and Jones, P. A.: Right paraduodenal hernia with roentgen diagnosis and postoperative recovery, Am. Jour. Roent., 59:338-342, March 1948.

13. Shatski, R.: Small intestinal enema, Am. Jour. Roent., 50:743-751, Dec. 1943.

14. Taylor, J.: The x-ray diagnosis of right paraduodenal hernia, Brit. J. Surg., 639-640, April 1930.

15. Watson, L. F.: Hernia. The C. V. Mosby Co., St. Louis, 1948, pp. 429-441.

16. Weintraub, S., and Williams, R. G.: Rapid method of examination of the small intestine, Am. Jour. Roent., 61:45-55, Jan. 1949.

Discussion by Martin W. Debenham, M.D., *San Francisco*

Dr. Williams has directed attention to the solution of a problem which is often more baffling to the surgeon or internist than to the radiologist.

Acute and complete obstructions are usually clear-cut, and demand immediate surgical attention. But the incomplete and recurring obstructions with the vague clinical symptoms are most difficult to evaluate. The absence of abdominal scar often leads one to overlook the possibility of mechanical obstruction.

The value of the "flat plate" or "scout film" cannot be overemphasized. It often gives significant leads to the diagnosis, even by the surgeon. On an emergency surgical service many of the patients are first observed in the middle of the night, and it is of inestimable value to have this aid at hand. At operation it is the duty of the surgeon to be familiar with all of the possibilities for internal herniation, because, as Dr. Williams has said, these obstructions may be spontaneously relieved at any time yet the hernia sac remain present. If it is not found and repaired, the obstruction will almost certainly recur.

The usual sites of congenital anomalies, especially the paraduodenal fossae, should be carefully inspected. A thorough search of the mesenteries and the omenta to the pelvic floor must be made if necessary to find the defect.

The Problem of Prognosis in Pancreatitis

J. Minton Meherin, M.D., and John K. Barbieri, M.D., *San Francisco*

SUMMARY

Prognosis in pancreatitis is at best difficult and uncertain. Certain complicating factors, however, occur in statistically established percentages of chronic cases: Calcification in 35 to 50 per cent, diabetes (usually mild) in 15 to 25 per cent, and cysts, pseudo-cysts or abscesses in 10 to 15 per cent. Steatorrhea (which may cause severe malnutrition) and diabetes are more common in cases in which calcification develops.

THE prognosis of pancreatitis presents a problem which is but partially solved. A sound prognosis should foretell the immediate outlook for life, the course of the disease, and the degree of recovery to be expected. What, then, is the outlook for life in an initial attack of pancreatitis? How often is acute pancreatitis an acute self-limited disease? How often is it merely an introduction to the more dolorous syndrome of chronic relapsing pancreatitis? Because these prophecies could not be made, help was sought from a review of the patients with pancreatitis who had been admitted to the Southern Pacific General Hospital in the years 1927 to 1946. Of the 42 cases, 27, proved by laparotomy or autopsy, could be followed for from three to twenty-two years. Of the 27 patients, 11 died, all during the first severe attack. This represents a mortality rate of 40 per cent, which is considerably lower than has been reported in some other series. Of the 16 patients who lived, seven now have relapsing pancreatitis. The histories and clinicopathological pictures of the 11 patients who died were in no way strikingly different than of the 16 who lived. Those who died were not subjected to more hazardous operative procedures. In general the treatment of the patients who died was not essentially different from that of those who recovered. If, then, the chance for recovery from an initial attack of acute pancreatitis is 60 per cent, why, in the two rather similar cases which follow, did one patient die and the other recover?

Table 1.—*Analysis of 11 Cases of Pancreatitis in Which Death Occurred*

	Type of Disease	
	Acute	Relapsing
Cases, initial attack	27	7
Deaths	11	0
Exploratory laparotomy	4	4
Cholecystotostomy	2	3
No operation	5	0
Mortality	40 per cent	0

From the Southern Pacific General Hospital, San Francisco.

Presented before the Section on General Surgery at the 79th Annual Session of the California Medical Association, April 30-May 3, 1950, San Diego.

Table 2.—*Analysis of 16 Cases in Which Patients Lived*

	Asymptomatic	Recurrent Symptoms
Cases	9	7
Followed	4 to 22 years	3 to 13 years
Cholecystostomy	3	3
Exploratory laparotomy	6	4
Gallbladder disease	5	3

CASE REPORTS

Case 1: A 51-year-old male was admitted to the hospital complaining of severe upper abdominal pain, nausea, and persistent vomiting of one day's duration. Upon laparotomy free fluid in the abdominal cavity and disseminated fat necroses were noted. The pancreas was considerably distended and hemorrhagic. The lesser sac was drained. The patient died on the eighth postoperative day. The diagnosis following autopsy was: "Acute hemorrhagic pancreatitis. Extensive fat necrosis."

Case 2: A 40-year-old male entered the hospital with complaint of acute onset of excruciating upper ahdominal pain and persistent nausea. Laparotomy was done. When the peritoneum was opened a quantity of blood fluid escaped. There were multiple fat necroses throughout the omentum and the lesser sac. The pancreas was enlarged, firm, and hemorrhagic. The convalescence was rather stormy. The patient was discharged as "well" on the 32nd day. He remained asymptomatic for 11 years, at which time he reentered the hospital with uremia and died. At autopsy the pancreas was found to contain a moderately large cyst.

Why one patient died and the other recovered is not satisfactorily explained. Was it just a different manifestation of the severity of the same disease? Can the resistance to the disease in apparently previously healthy individuals in approximately the same age group vary so greatly?

Of the 16 living patients, nine have remained asymptomatic for from four to twenty-two years following the initial attack. Seven have had recurrent symptoms over a period of three to thirteen years. The incidence of gallbladder disease in the two groups was almost the same, as was the palliative method employed in the treatment of it. In a series of 27 cases from the Mayo Clinic,[3] nine patients had associated biliary tract diseases. Cholecystectomy was done and was followed by prolonged drainage of the common duct. Four of the patients have remained asymptomatic and five have recurrent symptoms. The results in these few cases do not differ very much from those in the present series—in which cholecystostomy without

prolonged drainage was done. The difficulty of formulating an accurate prognosis in seemingly similar forms of the disease is illustrated by two cases in the present series.

CASE REPORTS

CASE 3: A 48-year-old male entered the hospital with acute upper abdominal pain and rigidity. For several years he had had digestive upsets, usually brought on by eating fatty foods. Laparotomy was done. The gallbladder was thickened and contained stones. The head of the pancreas was enlarged and edematous. Fat necroses were found throughout the omentum. Cholecystostomy was done. The patient left the hospital on the 32nd day. He has been free of symptoms for 15 years.

CASE 4: In 1946, a 54-year-old male was admitted with complaint of indigestion and recurring bouts of severe pain in the right upper quadrant of the abdomen. Previously cholecystectomy had been done elsewhere, without relief. Laparotomy was done. There was a quantity of brownish free fluid in the peritoneal cavity. The pancreas was enlarged and edematous. Areas of induration and areas of necrosis were encountered. The patient was dismissed on the 27th day. During the past three years he has continued to have trouble and has been readmitted twice with signs and symptoms typical of chronic relapsing pancreatitis.

Although the proposition is questionable, it seems likely that pancreatitis precedes the biliary tract involvement in many cases. If, in some instances, the reverse is true, are these the cases in which the response is satisfactory following correction of the biliary tract disease?

In general the laboratory findings, unless dramatic, are not of great help in formulating a prognosis.

Lacking as the refinements of prognosis in this disease may be, there are some stable prognostic guides.

Calcification may be demonstrated in 35 per cent to 50 per cent of chronic cases at some time during the course of the disease.[5, 6, 8, 9] The extent of the calcification does not necessarily parallel the severity of the disease. There may be extensive calcification without evidence of disturbance of pancreatic function. It is estimated that in 10 per cent of the cases of pancreatic calcification there are no symptoms ascribable to the calcification. However, steatorrhea and diabetes are more common in cases in which calcification is present. Low serum calcium levels may be encountered occasionally. If the level drops below 7 mg. per 100 cc., usually the patient dies.

Diabetes eventually develops in 15 to 25 per cent of patients who have the chronic relapsing type of the disease. It is usually of a mild form. It has been stated that approximately 90 per cent of the islet tissue of the pancreas may be destroyed before diabetes becomes apparent.

Persistent steatorrhea may cause severe states of malnutrition. At times the prognosis is improved when large doses of pancreatin or fresh beef pancreas are given.

The ten to 15 per cent of patients in whom cysts,[7] pseudocysts, or abscesses develop should be carefully observed during attacks. Fever, leukocytosis, and pronounced acceleration of the sedimentation rate may indicate extensive pancreatic necrosis or spreading abscess formation. Unfortunately the surgical treatment is hazardous. Most pancreatic fistulae follow operations on cysts. Partial pancreatectomy offers a very poor prognosis in the acute or subacute inflammatory stages. If the common duct is blocked, the stasis must be relieved. Liver damage caused by prolonged obstruction definitely darkens the prognosis.

TABLE 3.—*Complications in Relapsing Pancreatitis*

	Incidence
Pancreatic calcification	35—50%
Diabetes (usually mild)	15—25%
Steatorrhea	25—30%
Cysts, pseudocysts, abscesses	10—15%
Gastrointestinal hemorrhage	Occurs

What possible hope can be offered to patients who have recurring attacks of severe upper abdominal pain? Their lives are frequently unbearable and may end in chronic invalidism, morphinism, or alcoholism. Partial or total pancreatectomy may alleviate the symptoms in selected cases. There are several series of cases in which bilateral thoracolumbar sympathectomy[1, 2, 4] has been successful in freeing the patients from recalcitrant pain. It is, of course, a procedure which merely permits the patient to live more comfortably with a damaged pancreas.

In conclusion, it would seem that the disease is even more insidious than we know. Questions that arise are whether the severity of the disease is related to the persistence and degree of the ductal obstruction and whether it is proportional to the degree of involvement of the larger or smaller ducts. Perhaps further study of other series will lead to a better classification of the disease and to more satisfactory answers to the questions.

REFERENCES

1. Connolly, J. E., and Richards, V.: Bilateral splanchnicectomy and lumbodorsal sympathectomy for chronic relapsing pancreatitis, Ann. Surg., 131:58-63, Jan. 1950.

2. de Takats, G., and Walter, L. E.: The treatment of pancreatic pain by splanchnic nerve section, S. G. & O., 85:745, 1947.

3. Gambill, E. E., Comfort, M. W., and Bagenstoss, A. H.: Chronic relapsing pancreatitis, Gastroenterology, 11:1-33, July 1948.

4. Mallet-Guy, P. R., and Servettaz, P.: Distant results in the treatment of chronic pancreatitis by unilateral splanchnicectomy, Lyon Chir., 40:293, 1945.

5. Martin, L., and Canesco, J. D.: Pancreatic calculosis, J.A.M.A., 135:1055-1060, Dec. 20, 1947.

6. Pancreatic Calcification: Clinical Features, Proc. Staff Meeting Mayo Clinic, 24:434-437, Aug 17, 1949.

7. Pinkham, R.: Pancreatitis, S. G. & O., 80:225-235, March 1945.

8. Rienhoff, W. F., Jr., and Baker, B. M.: Pancreolithiasis and chronic pancreatitis, J.A.M.A., 134:20-21, May 3, 1947.

9. The Roentgenologic Aspects of Pancreatic Calcification, Proc. Staff Meeting Mayo Clinic, 24:437-442, Aug. 17, 1949.

Struma Lymphomatosa (Hashimoto's Disease)

Paul M. Walstad, M.D., *Napa*, Claudius Y. Gates, M.D., and Everett Carlson, M.D., *San Francisco*

SUMMARY

Seven cases of struma lymphomatosa are presented. Two patients had known enlargement of the thyroid for five or more years. In five cases only unilateral involvement was discernible at the time of operation. In one case there was a small nodule in the least involved side. In another there was diffuse involvement. Two of the patients were males. There has been recurrence in three of six cases in which partial thyroidectomy was performed. Only one patient with recurrence was treated with x-ray, apparently with satisfactory results. Six of the seven patients had a postoperative basal metabolic rate below normal. Three of them required desiccated thyroid for symptomatic relief.

UNTIL recently, struma lymphomatosa, a disease of the thyroid gland also known as Hashimoto's disease and lymphadenoid goiter, was thought to be a rare entity. It is now known that it occurs more frequently than was previously suspected and is widely distributed. Its resemblance to carcinoma of the thyroid gland, particularly in those cases in which one side is predominantly affected in the earlier stages, makes it an important entity to be considered in the diagnosis and treatment of thyroid disease. Crotti[2] stated in 1938 that probably not more than 120 authenticated cases had been reported. Joll's[7] comprehensive treatise in 1939 leaves little to be contributed to a description of this condition. To those few cases previously recorded, he added 51 he had observed. A series of seven cases is presented herein to stress certain features which may be encountered in the management of this disease.

ETIOLOGY

The etiologic delineation of this condition, first described by Hashimoto[4] in 1912, is as yet not established. However, the concept that it bears any relationship to Riedel's disease has been disproven. Graham's[3] work has shown that Hashimoto's disease and Riedel's disease are two distinct pathological processes. Hertzler[6] suggested that it may be the result of endocrine dysfunction. Results of experimental work in rats by McCarrison[11] led him to believe that Vitamin A deficiency might be a factor.

Presented before the Section on General Surgery at the 79th Annual Session of the California Medical Association, April 30-May 3, 1950, San Diego.

HISTOLOGICAL FEATURES

In this presentation, struma lymphomatosa, Hashimoto's disease, and lymphadenoid goiter are considered synonymous. Currently the criteria for the diagnosis of this disease are: (1) diffuse lymphocytic infiltration with follicle formation; (2) varying degrees of fibrosis, and (3) acidophilic degeneration of the acinar epithelium. This latter feature has been stressed by Crile,[1] and Marshall, Meissner and Smith.[9] Joll[7] insisted the entire gland is involved in the process. Means[10] in 1948 mentioned cases of unilateral character. This may represent, however, only an early phase of an involvement which in time may become diffuse. The acinar cells are usually small, low cuboidal in shape, with central nucleoli. The colloid is usually scanty, or in some areas entirely absent. Lymphocytic infiltration may be so complete in some fields that no acinar tissue can be identified. The dense fibrosis found in Riedel's disease is not present. Cases in which there is mild focal lymphocytic infiltration, such as is found in some toxic hyperplastic goiters and atrophic goiters of the aged, are not included in this category.

GROSS FEATURES

Mild to moderate enlargement is usual. In early cases there may be gross evidence of only unilateral involvement. As the process advances, eventually the entire gland will increase in size. The surface of the gland is somewhat irregular. The firmness of the affected portion is a constant characteristic. In contrast to the condition found in Riedel's disease, fixation to adjacent structures is unusual. Regional lymph glands are not enlarged. The cut surface is finely granular, and of a yellowish, or reddish brown color. Multi-lobulations may be seen, but limitation by encapsulation is not found.

CLINICAL COURSE

This disease occurs with rare exceptions in women in the fourth and fifth decades of life. In 25,000 thyroidectomies reported by Marshall, Meissner and Smith,[9] 77 cases of struma lymphomatosa were found, only one of which was in a male. The onset is insidious. A gradual, painless enlargement of the gland ensues. Voice changes, dysphagia, and cough may develop, although these are not the rule. Whenever such symptoms do occur, they are the result of pressure from a firm enlarging gland, as reported by Oldfield,[13] in which the trachea has become encircled. This process is in contradistinction to that in Riedel's disease, where extensive fibrosis may involve any of the structures adjacent to the involved

thyroid. The rate of progression is indeterminable. It may continue for many years and eventually result in total lymphocytic replacement of all functional thyroid tissue. With advancement, the clinical picture of mild hypothyroidism is to be expected. The basal metabolic rate at the onset may be normal or slightly reduced; it tends to decrease in later stages. Changes in the blood are not significant, although mild secondary anemia is not uncommon. The leukocyte count is normal, but relative lymphocytosis may be present. Fever is absent. There is no regional adenopathy.

CASE REPORTS

Following are reports of seven histologically proven cases observed by the author:

Case 1. A white male, 53 years of age, was admitted to hospital December 13, 1943, with complaint of a moderate-sized mass in the isthmus of the thyroid, of eight months' duration. The patient had noted fatigue, puffiness of the eyelids, headaches, and gain in weight for the previous year. Desiccated thyroid, 0.2 gm. daily for the five months prior to hospitalization, had relieved all symptoms except the mass. The past history included measles and scarlet fever in childhood, tonsillectomy, inguinal herniorraphy and influenza. The general appearance was normal. There was no evidence of myxedema.

In the isthmus of the thyroid there was a firm, rounded, non-tender mass about 4.5 cm. in diameter, which moved on swallowing. The blood pressure was 152 mm. of mercury systolic and 110 mm. diastolic. The pulse rate was 70 per minute. The temperature was 98°F. Result of a Wassermann test was negative for syphilis. The basal metabolism rate was minus 18. Erythrocytes numbered 4,100,000. Hemoglobin value was 80 per cent. Leukocytes numbered 7,100 with 55 per cent neutrophils, 3 per cent eosinophils, 2 per cent monocytes, and 40 per cent lymphocytes. Non-toxic adenoma was suspected.

At operation a non-adherent firm mass occupying the isthmus was widely excised. Convalescence was uneventful.

Pathological report: The material removed was a single mass of firm, pale, lobular thyroid tissue, fibrous in consistency, weighing 6.5 gm. and measuring 3.8 by 3 cm. On gross section the color was pale tawny. Small, lobular structures were distinguished in the cut surface. Section exposed tissue in which the normal structure was widely replaced by heavy focal and less pronounced diffuse lymphocytic infiltration with considerable dense and moderately acellular connective tissue. The lymphocytic infiltration was more intense in the portions in which there was remaining degenerated thyroid tissue. There were more or less prominent follicles with well developed germinal centers. The fibrous elements were mature. The acini were in varying degrees of degeneration; swollen acidophilic epithelium surrounding a small amount of pale colloid was frequently observed. In the more advanced degenerative changes only a few large thyroid cells remained. The lymphocytes were mature, small, lymphocytic in type, and the germinal centers where present were actively hyperplastic. The diagnosis was struma lymphomatosa.

After operation, progressive hypertension developed. In August 1949 right hemiplegia occurred. In February 1950 the patient had recovered and appeared to be in good health. There was no palpable enlargement or irregularity of the remaining thyroid. The blood pressure was 190 mm. of mercury systolic and 130 mm. diastolic, the pulse rate 64 and the temperature 98°F. The basal metabolism rate was minus 24. Erythrocytes numbered 4,280,000 and the hemoglobin value was 84 per cent. Leukocytes numbered 6,800 with 67 per cent neutrophils, 3 per cent eosinophils and 30 per cent lymphocytes. The urine was normal. Cholesterol content of the blood was 258 mg. per 100 cc. There was no myxedema. Since operation the patient has required from 0.2 to 0.3 gm. of desiccated thyroid daily.

Case 2. A white housewife, aged 47, entered the hospital Dec. 1, 1944, with complaint of a progressively enlarging goiter for six months. For three weeks she had noted pressure in the neck and pain behind the right ear. Mild nervousness and palpitation, and slight blurring of vision in the right eye were noted by the patient, and the body weight recently had increased 5 pounds. Medical and family histories were irrelevant.

The general appearance of the patient was normal. The body weight was 135 pounds. The temperature was 98.3°F., the blood pressure 120 mm. of mercury systolic and 90 mm. diastolic, the pulse rate 72, and the basal metabolism rate minus 8. Results of urinalysis and blood examination were within normal limits. The right lobe of the thyroid contained a very firm, irregular non-tender nodule about 5 cm. in diameter. The left lobe was normal to palpation. Adenoma of the thyroid gland, possibly malignant, was suspected.

At operation the right lobe was found to contain a firm, non-adherent mass. A biopsy specimen was taken. The appearance of frozen sections was reported as "suspicious of malignancy." The right lobe and isthmus were completely removed. The left lobe appeared to be normal and was left intact.

Pathological report: The gross specimen weighed 40 gm. The cut surface was firm, slightly friable and opaque, and pale, yellowish brown. The sections showed complete absence of thyroid glandular tissue, due to massive replacement by lymphocytes. The major outlines of fibrous stroma remained in some areas. There seemed to be little tendency for the lymphocytes to invade the extracapsular tissue. Clear-cut evidence of malignancy was lacking, but it was impossible to exclude lymphosarcoma. The conclusion was struma lymphomatosa.

Recovery was uneventful. Five years later there was no evidence of recurrence. The patient had been in good health without medication. Body weight had increased 5 pounds.

Case 3: A white woman 47 years of age entered the hospital Oct. 13, 1947, complaining of fatigue and weakness for three years, and blurring of vision for five months. The latter had been partially relieved by change of glasses. The patient had noticed fullness in the neck for many years without change. Within three years there had been a 44-pound decrease in body weight, and the present weight was 110 pounds. There was history of pertussis, measles, and frequent tonsillitis in childhood. The patient had had migraine prior to the menopause, and had had occasional headache since. The family history was irrelevant, except that the father died of carcinoma of the liver.

The general appearance was normal and there was no evidence of myxedema. The blood pressure was 122 mm. of mercury systolic and 70 mm. diastolic. The pulse rate was 73, the temperature 98.4°F. There were two hard, palpable nodules in the left lobe of the thyroid, 4 x 5 cm. and 2 x 3 cm. The right lobe appeared normal. The gland moved on swallowing. There were no palpable cervical nodes. An oculist could find no explanation for the blurring of vision.

Erythrocytes numbered 4,680,000 per cu. mm. of blood, and the hemoglobin value was 77 per cent. Leukocytes numbered 6,900 with 72 per cent polymorphonuclear cells, 17 per cent lymphocytes and 2 per cent monocytes. Result of a Wassermann test was negative for syphilis. The basal metab-

olic rate was minus 13. Adenoma of the left lobe, possibly malignant, was suspected.

At operation the left lobe was found to be about one and a half times normal size, firm, and slightly nodular. The right lobe appeared normal. The entire left lobe together with the isthmus was excised. No tissue was removed from the right.

Pathological report: The specimen of thyroid tissue weighed 42 gm., and measured 8 x 4 x 4 cm. The cut surface was pale, reddish brown and homogeneous. A scant amount of colloid was visible. Sections showed acini with low columnar epithelium, well filled with colloid. In some areas the acini were small and the colloid absent. There was pronounced diffuse infiltration of lymphocytes through the supporting stroma. Many areas of infiltration were focal with formation of lymph follicles. There was no increase of stroma and no evidence of malignancy. In many areas there was acidophilic degeneration of the acinar epithelium. Diagnosis: struma lymphomatosa.

The postoperative course was uneventful. In May 1949 the basal metabolic rate was minus 11. There was moderate enlargement of the right lobe, which was freely movable, non-tender and firm in consistency. The patient was unaware of this development, felt well without medication, and declined further treatment.

* * *

Case 4: A white woman, 50 years of age, entered the hospital Aug. 24, 1948. In November 1947 while the patient was being examined for an unrelated problem, the thyroid was observed to be slightly enlarged throughout. It was irregular and firm and not fixed to surrounding tissue. Although informed of the findings, the patient did not return as requested until Aug. 1948. The body weight had increased 11 pounds in the interim. The patient complained of fatigue, headaches and nervousness. Hoarseness and a non-productive cough had developed.

Hysterectomy for fibroids had been done seven years previously. Menopausal symptoms were relieved by occasional use of estrogens. The patient had had pneumonia in Aug. 1947.

The body weight was 142 pounds. Blood pressure was 120 mm. of mercury systolic and 80 mm. diastolic. The pulse rate was 70 and the temperature 98°F. Heart and lungs were normal. Mild hoarseness was noted. The thyroid was enlarged, irregular and firm. There was no fixation to the surrounding structures, and no tenderness or regional glandular disease. Upon laryngeal examination, adductor weakness of the right cord was noted. No abnormality was noted in an x-ray film of the chest, and there was no displacement or compression of the trachea. The basal metabolism rate was plus 13. A Wassermann test was negative for syphilis. Erythrocytes numbered 3,900,000, and the hemoglobin value was 78 per cent. Leukocytes numbered 5,800 with 60 per cent neutrophils, 38 per cent lymphocytes and 2 per cent monocytes. Chronic thyroiditis, possibly struma lymphomatosa, was suspected.

At operation, the thyroid was found to be moderately enlarged, nodular and indurated throughout. No grossly normal tissue could be demonstrated. There was no fixation to surrounding structures. Upon frozen section biopsy, struma lymphomatosa was reported. In view of the extensive involvement, including evidence of interference with the right recurrent laryngeal nerve, total thyroidectomy was carried out. The postoperative course was uneventful.

Pathological report: The specimen was a firm, pale, tawny thyroid gland, weighing about 38 gm. and showing a lobular, homogeneous cut section. Section showed thyroid tissue with extensive lymphocytic infiltration throughout, often focal in character, and accompanied by follicle formation with well defined germinal centers. There was an increase in connective tissue with lymphocytic infiltration and fibrous tissue replacing the thyroid alveoli, which showed degenerative changes. The epithelial cells generally were large and cuboidal and had a pink staining reaction. Colloid was largely absent and that which remained was of pale staining reaction and poor quality. Diagnosis: Struma lymphomatosa.

When last examined in Aug. 1949 the patient was free of complaints. The body weight was 142 pounds. The basal metabolic rate was minus 8. An average of 0.2 gm. of desiccated thyroid daily was taken. On smaller doses, fatigue and leg pains developed. There was no evidence of myxedema. The hoarseness was less and the cough had disappeared.

* * *

Case 5: A white male physician, 66 years of age, entered the hospital Nov. 8, 1948, with complaint of progressive enlargement of the left lobe of the thyroid of one month's duration. There were no pressure symptoms, weight loss, or evidence of thyrotoxicosis. Past history was irrelevant. The patient's mother had died of diabetes.

The general appearance was normal. The temperature was 98.2°F., the pulse rate 72, blood pressure 124 mm. of mercury systolic and 80 mm. diastolic. The body weight was 180 pounds. There was a hard, diffuse enlargement of the left lobe of the thyroid, measuring 5x3 cm. It was unattached to the overlying structures. There was no tenderness. A small nodule was palpated in the upper portion of the right lobe. There was no regional adenopathy. The basal metabolic rate was minus 12. Result of a Wassermann test was negative for syphilis. Erythrocytes numbered 4,730,000 per cu. mm. of blood, and hemoglobin value was 80 per cent. Leukocytes numbered 9,450 with 55 per cent polymorphonuclear cells, 38 per cent lymphocytes, 4 per cent monocytes and 3 per cent eosinophils. The urine was normal. Malignant disease in the left lobe of the thyroid was suspected.

At operation the left lobe of the thyroid was found to be two and one half times the normal size. It was firm, slightly irregular, and appeared to be well encapsulated and not attached to adjacent structures. The isthmus and right lobe were grossly normal except for the small nodule previously noted. The left lobe and isthmus were removed. No resection of the right lobe was carried out.

Pathological report: The specimen consisted of a slightly nodular, encapsulated mass of thyroid weighing 76 grams. The cut surface was uniformly pale, yellowish brown, and homogenous. Colloid was grossly absent. Sections showed massive infiltration with lymphocytes. In some areas remnants of atrophic acini could be seen. These contained a small amount of colloid. In areas around the acini there was heavy infiltration of normal appearing lymphocytes. Beyond these areas lymphocytes were larger and showed more abundant cytoplasm. These were similar to the cells in the germinal center of lymph follicles. In some areas there was a diffuse increase of stroma. Mitotic figures were rarely observed. Although the findings were consistent with struma lymphomatosa, the possibility of lymphosarcoma could not be entirely eliminated.

The postoperative course was uneventful. At the end of six months, however, the right lobe had become enlarged, with gross characteristics similar to those found in the left lobe before operation. X-ray therapy was given with prompt regression of the enlargement.

* * *

Case 6: The patient, a white woman 36 years of age, was admitted to hospital Nov. 25, 1948, with complaint of gradual enlargement of the right lobe of the thyroid for one year, unaccompanied by pressure symptoms. There were no symp-

toms of thyrotoxicosis. Past history included chicken pox, mumps, measles, pneumonia, tonsillectomy, appendectomy and excision of ovarian cyst, cholecystitis, and cholecystectomy. The family history was non-contributory.

The general appearance was normal. The body weight was 128 pounds. Heart and lungs were normal. Blood pressure was 108 mm. of mercury systolic and 68 mm. diastolic. The pulse rate was 88, the temperature 98°F. The right lobe of the thyroid was enlarged the size of a walnut and was smooth, firm, movable and non-tender. The left lobe was slightly and uniformly enlarged. There was no cervical adenopathy or fixation. The basal metabolic rate was minus 20. Erythrocytes numbered 3,580,000, and the hemoglobin value was 70.6 per cent. Leukocytes numbered 10,400, with 71 per cent polymorphonuclear cells, 23 per cent lymphocytes and 6 per cent monocytes. A Wassermann test was negative for syphilis. Non-toxic adenoma, with possible malignancy, was suspected.

At operation the right lobe was found to be two and one-half times normal size, slightly lobulated, firm and non-adherent. There was slight diffuse enlargement of the left inferior pole. The entire right lobe and isthmus were removed. On the left, subtotal thyroidectomy to remove that portion of the inferior pole which appeared abnormal, was carried out.

Pathological report: The specimen consisted of thyroid tissue weighing 50 gm. The cut surfaces were pale, yellowish brown and homogeneous. Colloid was almost entirely absent. The specimens were encapsulated and slightly lobulated. There was pronounced atrophy of the acini, the majority of which were small and lined by columnar epithelium. Some of the acini were devoid of colloid. Acidophilic degeneration of the thyroid epithelium was observed in many areas. There was no particular increase in stroma, but there was pronounced infiltration of lymphocytes. In some places these formed lymphoid follicles. There was no evidence of malignancy. The diagnosis was struma lymphomatosa.

The convalescence was without event. When last observed, in May 1949, the patient was in good health without medication. There was no evidence of myxedema. Upon examination, however, a firm, non-tender movable mass the size of a walnut, involving the left lobe, was noted. The patient was unaware of it. The basal metabolic rate was minus 16. The patient moved to another locality and further follow-up was not possible.

* * *

Case 7: The patient, a white woman 36 years of age, entered the hospital Sept. 15, 1949, complaining of nervousness, irritability, and recent loss of ten pounds in body weight. There were vague pains in the wrist and knee. The patient had been observed from time to time over a period of ten years in the hospital clinic, for various minor diseases. Throughout this time, moderate diffuse enlargement of the thyroid had been noted. In 1948 a nodule was noted in the right lobe. Past and family histories were irrelevant.

The general appearance of the patient was that of a person with hyperthyroid disease. There was mild myxedema. The skin and hair were dry. The temperature was 97.6°F., pulse rate 72, and blood pressure 120 mm. of mercury systolic and 84 mm. diastolic. The thyroid was diffusely enlarged but asymmetrical. The right lower pole was nodular, moderately firm and non-tender. The basal metabolic rate was minus 18. The cholesterol content of the blood was 226 mg. per 100 cc. A Wassermann test was negative for syphilis. Erythrocytes numbered 3,800,000, and the hemoglobin value was 70.6 per cent. Leukocytes numbered 7,500 with 57 per cent polymorphonuclear cells, 6 per cent monocytes and 37 per cent lymphocytes. Adenoma of the thyroid with hypothyroidism was suspected.

At operation the gland was found to be moderately firm and diffusely enlarged. There was a nodule at the right lower pole. No attachment to surrounding structures was noted. Subtotal bilateral thyroidectomy was done.

Pathological report: The specimen consisted of a mass of thyroid tissue weighing 25 gm. The cut surfaces were reddish brown and showed a scant amount of colloid. Tissue from various parts of the thyroid was histologically similar. There was massive infiltration with lymphocytes which in places formed follicles with germinal centers. The acini were widely spaced and small, and were lined with columnar epithelium having large round nuclei with much pale thin cytoplasm. Mitotic figures were not observed. None of the acini contained colloid. There was no general increase in stroma. Diagnosis: struma lymphomatosa.

When observed in February 1950, the patient complained of fatigue and listlessness. The basal metabolic rate was minus 21. The cholesterol content of the blood was 464 mg. per 100 cc. The body weight was 162 pounds. The patient was given 0.06 gm. of desiccated thyroid daily, and one month later she reported pronounced improvement. There was no evidence of enlargement of the remaining thyroid tissue.

DISCUSSION

When struma lymphomatosa is in the phase in which only one portion of the thyroid gland is involved, the gross findings may simulate those of malignant disease in an early stage. This is contrary to the reported experience of others[14] who have stated that the diffuse nature of struma lymphomatosa makes for an unequivocal diagnosis.

The wide removal of all grossly involved tissue does not insure against continuation of the process in the remaining gland. Although Hashimoto[4] in his original paper stated that thyroid tissue remaining after incomplete removal tended to regress, it has been the experience of the authors that goitrous development of the remaining thyroid gland is unpredictable. In six such cases in the authors' series, there was recurrence in three within a period of less than two years. In two cases there has been no evidence of recurrence in a period of more than five years.

Hashimoto's disease presumably may exist for many years in an unprogressive state. During this period it may have clinical characteristics undistinguishable from those of non-toxic adenoma. This is illustrated in Cases 3 and 7, in which localized nodular enlargement of the thyroid had been present for five or more years, but in which no adenomatous changes were found on pathological examination following operation.

Generally, pathologists agree that interpretation of frozen sections from thyroid biopsies may not be entirely reliable. Nevertheless, the authors believe that frozen section examination should be employed in all cases in which differential diagnosis between malignant disease and struma lymphomatosa is considered.

It is noteworthy that two of the seven patients were males. McSwain and Moore[12] reported 15 cases from the New York Hospital; all the patients were females. In Joll's[7] 51 cases, plus 30 which were reported to him, only 3.7 per cent of the patients were males. In Lee's[8] 26 cases, only one patient

was a male. In Mean's[10] series of 12 cases from Massachusetts General Hospital, all patients were females.

In the cases observed by the authors there was no reason to suspect dietary deficiency as was suggested by McCarrison.[11] In the cases here reported the relative lymphocytosis noted by some investigators[12] was not observed.

TREATMENT

To date, medical treatment of this condition has been ineffectual. Surgical treatment is indicated to establish a diagnosis and rule out malignancy, and to relieve pressure symptoms. The accepted treatment to date is bilateral subtotal thyroidectomy.

The lymphoid nature of this disease makes it particularly susceptible to x-ray.[16] Hertz[5] suggested the trial use of x-ray in those cases of struma lymphomatosa diagnosed by punch biopsy. The use of radium was also mentioned. Renton, Charteris and Heggie[15] used radiotherapy in one case without any recurrence in a five-year period.

PROGNOSIS

At present, this appears to be a comparatively benign disease, the progress of which may vary greatly from patient to patient. Results of operation are usually satisfactory, but unless extensive removal has been done on both sides, recurrences tend to develop (as it did in three cases observed by the authors). In the future it may be found, however, that only conservative excision will be advisable, and radiation therapy may prove to be effectual in controlling recurrences.

2644 Main Street.

REFERENCES

1. Crile, G., Jr.: Thyroiditis, Annals of Surgery, 127:627-654, April 1948.

2. Crotti, A.: Diseases of the Thyroid, Parathyroids and Thymus, Lea and Febiger, 340-343, 1938.

3. Graham, A.: Riedel's struma in contrast to struma lymphomatosa (Hashimoto), Western Jour. Surg., 39:681, 1931.

4. Hashimoto, H.: Zur Kenntus der Lymphomatosen veranderung der Schildruse (Struma Lymphomatosa), Arch. f. kin Chir., 97:219, 1912.

5. Hertz, J.: Thyroiditis, diagnosis and treatment, The Journal of the International Coll. of Surg., 12:211-222, 1949.

6. Hertzler, A. E.: Diseases of the Thyroid Gland, Paul B. Hoeber, Inc., New York and London, 352, 1941.

7. Joll, C. A.: The pathology, diagnosis and treatment of Hashimoto's disease (struma lymphomatosa), Brit. Jour. Surg., 27:351-389, 1939.

8. Lee, J. G.: Chronic non-specific thyroiditis, Arch. of Surg., 31:982-1011, 1936.

9. Marshall, S. F., Meissner, W. A., and Smith, D. C.: The New England Jour. of Medicine, 238: 758-766, May 27, 1948.

10. Means, J. H.: Thyroid and Its Diseases, 2nd Edition, J. B. Lippincott, Philadelphia, 480, 1948.

11. McCarrison, R.: Note on the experimental production of lymphadenoid goitre in rats, British Med. Jour., 1:5, 1929.

12. McSwain, B., and Moore, S. W.: Struma lymphomatosa, Surg. Gyn. Ob., 76:562, 1943.

13. Oldfield, M. C.: An atypical lymphadenoid goitre encircling the trachea and larynx and causing periodic aphonia, The Brit. Jour. of Surg., 35, 1947-48.

14. Quarterly Review of Surgery, 6:233, Aug. 1949.

15. Renton, J. M., Charteris, A. A., and Heggie, J. F.: Riedel's thyroiditis and its treatment by radium, British Jour. Surg., 26:54-70, 1938-1939.

16. Schilling, J. A.: Struma lymphomatosa, struma fibrosa, and thyroiditis, Surg. Gyn. Ob., 81:533-550, 1945.

Amebiasis Masquerading as Appendicitis

Stephen J. Stempien, M.D., Donald M. Marcus, M.D., and
Raymond W. Kelso, Jr., M.D., *Long Beach*

SUMMARY

In fifteen cases of amebiasis masquerading as appendicitis, the important findings were nausea, vomiting, epigastric pain, pain in the right lower quadrant of the abdomen, fever, and leukocytosis.

Amebiasis ought to be considered and appropriate studies carried out in differential diagnosis of cases in which symptoms indicate acute, subacute or "chronic" appendicitis. Depending on indications, the studies should include radiography with barium enema, sigmoidoscopy, complement fixation test, a minimum of nine stool examinations, a stool culture, and examination of purged stools unless this is contraindicated.

SINCE the recent war, much emphasis has been placed upon the diagnosis and treatment of amebiasis in its various clinical forms. During the past three years of observation at this Veterans Administration Hospital, the authors have been impressed with the frequency of amebiasis masquerading as appendicitis. In fact the similarity of one to the other was so striking in some cases that differentiation was frequently impossible on the basis of the clinical evidence alone, but was dependent to different degrees upon past history, laboratory study, the course of illness and response to specific therapy. In an excellent review, Hawe[1] discussed the differential diagnosis based upon his clinical experience in India. More recently in this country Kleitsch and Cherry[2] and Lisenby[3] called attention to this problem, particularly in ex-service personnel.

COMPOSITE CLINICAL PICTURE OF FIFTEEN CASES

The following is a composite of clinical observations in 15 cases of amebiasis which closely simulated appendicitis. All of the patients were referred by outside physicians with a diagnosis of acute appendicitis. In most cases there was history of previous similar episodes. The onset of illness was usually sudden, with mild nausea, occasional vomiting, frequently epigastric pain and, in all cases, right lower quadrant pain which was either sharp or cramp-like. In some but not all cases loose stools were passed, and occasionally definite constipation was present. Careful inquiry elicited a history of previous diarrhea or amebiasis in some cases. On examination, tenderness and rebound tenderness was often localized to the right lower quadrant, although in others it was more generalized. Muscle spasm was minimal or absent. The temperature was found to range from normal to 100°F. The number of leukocytes in the blood ranged from normal in some cases to as high as 18,000 per cu. mm. in others, with many immature neutrophils. Results of sigmoidoscopy and roentgen examination with barium enema were negative in all cases. Diagnosis was made in each case by the finding of E. histolytica in the stools and was corroborated by favorable response to specific antiamebic therapy.

ILLUSTRATIVE CASE REPORTS

Case 1: A 25-year-old man entered the hospital with the following history: Six days before admission, following a beach party, anorexia developed. About 4 o'clock the following morning, the patient was awakened by nausea, epigastric pain and vomiting. An hour later the pain had shifted to the right lower quadrant, where it was sharp and non-radiating. Moderate relief was obtained with ice packs. After two days of observation in another hospital the patient was transferred to the Birmingham Hospital with diagnosis of subsiding acute appendicitis. Here the only additional notation in the history was that one month previously the patient had had a urinary infection, characterized by pyuria and dysuria, which was treated successfully with penicillin and a sulfonamide.

In a physical examination at this time no abnormality was noted. Results of urinalysis were within normal limits. The hemoglobin content of the blood was 14 gm. per 100 cc. Leukocytes numbered 18,250 with 81 per cent neutrophils. The next day the leukocyte count was 7,850 with normal cell differential. In examination of the stool, E. coli and I. buetschlii were observed. The patient was observed by both medical and surgical services and it is noteworthy that one of the staff members whose index of suspicion for amebiasis is always high felt that appendicitis was so strongly indicated that operation was warranted. He recommended, however, that more stools ought to be examined to determine if E. histolytica might not also be present. He felt that sigmoidoscopy might also be useful.

X-ray examination with barium enema was carried out and no abnormality was observed.

A normal appendix was removed. Following operation, E. coli, I. buetschlii and Giardia lamblia were observed in stool specimens. In the eighth stool examination, both the cysts and trophozoites of E. histolytica were observed. The patient was then treated for amebiasis and recovered. There was no recurrence of symptoms in a follow-up of two and one-half years.

* * *

Case 2: A 30-year-old man entered the hospital with complaint of acute abdominal distress. On the day before

From the Medical Service, Section of Gastroenterology, Veterans Administration Hospital, Long Beach.

Reviewed in the Veterans Administration and published with the approval of the Chief Medical Director. The statements and conclusions published by the authors are the result of their own study and do not necessarily reflect the opinion or policy of the Veterans Administration.

entry the patient had nausea without vomiting, and pain just below the umbilicus. He was awakened in the middle of the night by cramp-like pains in the lower abdomen bilaterally. A laxative was taken which produced loose watery stools in the morning, without relief of pain which was now localized to the right lower quadrant of the abdomen. A physician referred him to the Birmingham hospital, with a report of leukocytosis (15,000 per cu. mm.) and a diagnosis of acute appendicitis. Upon physical examination, pain and tenderness in the right lower quadrant of the abdomen and rebound tenderness in both lower quadrants were noted. There was pronounced tenderness in the right side of the rectum. Leukocytes numbered 17,300 with 87 per cent neutrophils, 10 per cent of which were immature forms. The initial impression was acute appendicitis. Further questioning elicited that the patient had been hospitalized four years previously for amebiasis. It was elected to observe the patient overnight. The next day, leukocytes numbered 9,700 with 80 per cent neutrophils, and the day after the leukocyte count was 8,100 with 60 per cent neutrophils. Six days after admission, the third stool examination was positive for E. histolytica. The patient was then treated for amebiasis and made uneventful recovery with complete abatement of symptoms.

* * *

Case 3. A 26-year-old male was admitted for nausea and pain in the right lower quadrant of the abdomen. There was point tenderness and rebound tenderness in that sector. Tenderness on the right side was noted during rectal examination. Leukocytes numbered 11,000 per cu. mm. of blood, with 74 per cent neutrophils. E. histolytica were observed in examination of stools. Uneventful recovery followed appropriate therapy. Three weeks prior to admission, the patient had had appendectomy because of the same symptoms.

DISCUSSION

The foremost aid in distinguishing amebiasis from appendicitis is a high index of suspicion for the former disease in cases labeled appendicitis. This suspicion should lead to careful attention to details of history, with particular reference to amebiasis, diarrhea, and details of previous similar attacks. As part of the workup of every case of "appendicitis" in which it is elected to observe the patient, stool examination should be carried out immediately and repeated daily until a minimum of nine stools have been examined. In most instances stool examinations are not seriously considered as part of the investigation in cases diagnosed as acute, subacute or "chronic" appendicitis. It is worthy of further note in this regard that during the Chicago epidemic of amebiasis 41 per cent of patients who were operated upon died.[4]

It is well known that many normal appendices are removed because of symptoms highly suggestive of acute or "chronic" appendicitis. When that occurs, repeated stool examinations should be carried out during surgical convalescence to rule out amebiasis. Likewise patients with recurrent pain in the right lower quadrant of the abdomen after appendectomy should have thorough stool examinations. It would also be important to know the exact pathologic condition observed in the removed appendix.

When a surgeon, operating because of symptoms of appendicitis, finds the appendix to be normal, he might profitably explore the right colon and ileum. If for any reason the colon is opened for inspection, smears should be taken and any suspicious lesion subjected to biopsy.

The following diagnostic procedures are recommended to rule out amebiasis: A minimum of nine stool examinations—direct, stained and concentrated—should be done. Purged stools may be included, unless this is contraindicated. If nonpathogenic amebae are found, search for E. histolytica should be intensified, and attempt should be made to culture this organism. The complement-fixation test may be an aid in diagnosis, although its availability is limited. A barium enema and sigmoidoscopy may be helpful in diagnosis, as was reported by Wilbur and Camp[6] and White,[5] but in the present series of cases these procedures were of no value.

The pathogenesis of such an abrupt onset of symptoms as that which occurs in some cases of amebiasis remains obscure. The tenderness localized to the right lower quadrant of the abdomen, the occasional fever and pronounced leukocytosis, suggest an acute process—possibly acute colitis caused by secondary bacterial invasion of minute amebic ulcers. Perhaps pathologic examination of material obtained during surgical exploration and more careful stool studies will provide the answer.

Veterans Administration Hospital, Long Beach.

REFERENCES

1. Hawe, P.: The surgical aspect of intestinal amebiasis, Surg. Gynec. and Obst., 81:387-403, Oct. 1945.

2. Kleitsch, W. P., and Cherry, L. D.: Amoebiasis: Surgical considerations, Nebraska State Med. J., 34:20, Jan. 1949.

3. Lisenby, A. H.: Surgical amebiasis with respect to acute appendicitis, J. Florida Med. Assn., 36:30, July 1949.

4. McCoy, G., and Hardy, A.: Clinical diagnosis of amebic dysentery, J.A.M.A., 107:1357, Oct. 24, 1936.

5. White, R. B.: Chronic amebiasis of the cecum, Ill. Med. J., 93:102, Feb. 1948.

6. Wilbur, D. L., and Camp, J. D.: Amoebic disease of the cecum, Gastroenterology, 7:535, Nov. 1946.

Cataract Extraction with the Erisophake

Harold B. Alexander, M.D., *Pasadena*

SUMMARY

Today the erisophake offers the most successful means for the intracapsular extraction of cataracts. The advantages of this method are that no counterpressure is required so that the incidence of vitreous loss is reduced; the vacuum cup provides a firmer grasp of the lens with less danger of rupture of the lens capsule; and the vacuum cup can be used for the delivery of practically all types of cataract in the adult, including intumescent and Morgagnian cataracts as well as lenses with exfoliating and friable capsules.

While the forceps method of intracapsular extraction is generally successful in not more than 70 to 75 per cent of cases, the erisophake may offer success in 90 per cent of cases.

THE intracapsular method of cataract extraction has been proven superior to the extracapsular procedure in most instances, but perfection in this operation is yet to be achieved. The erisophake was introduced to the armamentarium of ophthalmic surgery 40 years ago by Hulen[8] of San Francisco for the specific purpose of correcting some of the obvious defects of the forceps method of lens extraction and at the same time to increase the efficiency of the intracapsular technique. Although the suction apparatus that he used was quite crude in design, Hulen demonstrated that the vacuum cup permitted a firmer control of the lens and made possible a higher proportion of intracapsular extractions without the use of external pressure and with less danger of rupture of the lens capsule or loss of vitreous. Further interest in the use of the erisophake was stimulated by Barraquer's[1] success with the motor-driven "pneumatic forceps" which he presented in 1917, and by Dimitry's[5] suction instrument. However, many surgeons of that period did not share the enthusiasm for this newer method of cataract extraction, and even today a cloud of skepticism hangs over the erisophake. For the most part, the disapproving murmurs still to be heard are the echoes of opinions expressed ten to twenty years ago by surgeons who found the suction machine mechanically inefficient and too awkward. Crossley[4] quoted Smith as declaring in 1923 that the suction apparatus was not reliable enough to warrant its use, and Wright[16] added the weight of his disapproval. In 1942, Kirby[9] described the equipment for phacoerisis as too complicated and pointed out that in spite of Barraquer's reported success in Spain, he failed to make an impressive demonstration of the erisophake when he used it in American clinics. The inadequacies of the suction apparatus in the past have erroneously identified it in many minds with such complications as permanent vitreous changes, intraocular hemorrhage, and the accidental aspiration of vitreous.

Until the development of the erisophake, the very essence of the intracapsular technique of cataract extraction was the use of the capsule forceps. At best, however, the forceps method of lens extraction has proven far from perfect. Recent evaluations of the present status of the intracapsular operation made by Knapp,[10] Kirby,[9] and Castroviejo,[3] showed that the forceps method succeeds in little more than 70 to 75 per cent of cases, with rupture of the lens capsule in approximately 20 to 30 per cent of cases, loss of vitreous in at least 5 per cent, and inability to grasp the capsule with the forceps in 10 per cent of cases.

The traction-counterpressure technique, as usually carried out with the capsule forceps and muscle hook, depends for success on a very delicate balance between the tension exerted on the lens capsule by the forceps and the pressure applied to the vitreous body. Too often the operation falls short of success simply because either the hyaloid membrane or the lens capsule is too weak to withstand the minimal force required to rupture the zonules and extract the lens. Loss of vitreous is certainly one of the major defects of the forceps technique. Vitreous loss in cataract operations depends primarily on the amount of pressure-manipulation to which the vitreous body is subjected. Great has been the diversity of opinion regarding the solution of this problem, and the common approach has been focused on the relative amounts of traction and pressure that should be exerted during the lens extraction maneuver. Lagrange, Spaeth, and Arruga have advocated almost the exclusive use of traction, while Smith went to the opposite extreme and relied on pressure alone for lens delivery. Careful studies on the dynamics of the vitreous body were recently made by Harrington[7] who showed that some of the complications incident to the forceps method of cataract extraction can be reduced by the proper application of pressure on the vitreous body. It is obvious, however, that the frequency of vitreous loss can never be reduced beyond a very significant percentage by a technique of cataract extraction which uses the vitreous as a hydrostatic wedge to rupture the zonules and dislodge the lens from the hyaloid fossa.

Presented before the Section on Eye, Ear, Nose and Throat at the 79th Annual Session of the California Medical Association, April 30-May 3, 1950, San Diego.

From the Department of Ophthalmology, College of Medical Evangelists, Los Angeles.

The erisophake offers four important advantages over the forceps method of intracapsular cataract extraction:

1. The necessity of applying pressure on the vitreous body is greatly reduced.

2. The lens capsule is less often ruptured.

3. The broad, firm grasp of the suction cup on the capsule permits constant control of the lens during the maneuver of extraction.

4. All types of cataracts in adults can be extracted with the erisophake.

The use of the suction instrument has made possible the intracapsular delivery of cataract types which too often defy the successful application of the capsule forceps. The rubbery capsule of the intumescent lens and the thin capsule of the sclerosed, exfoliating, and Morgagnian cataracts present considerable problems when forceps are used but are not particularly hazardous when the erisophake is used. Castroviejo[3] stated that "with the erisophake the type of cataract does not have any influence" and that "the number of intracapsular extractions obtained with it is greater than in the best statistics by the method of forceps and the complications are not greater than by the other methods." Thomas[12,13] used a modification of the Dimitry instrument and in an excellent survey of the status of phacoerisis pointed out that the suction method may be used to greatest advantage in cases "in which the lens is hypermature, and in which the capsule is tense, exfoliated, or friable and will not stand any tension." Wolfe and Blaess[15] summarized their series of 100 cataract extractions by the Barraquer method in which intracapsular extraction was achieved in 91 per cent of cases; the visual acuity was 20/20 or better in 90 per cent of cases, and the results of the operation were successful in 99 per cent of cases. Other strong advocates of the erisophake are Nugent,[11] Fisher,[6] and Veirs.[14]

For cataract extraction with the erisophake, the motor-driven instrument has proved very dependable. The model designed by Castroviejo delivers a vacuum ranging from 55 to 65 cm. of mercury and has the advantage that the relatively constant vacuum can be controlled by the operator through an electric foot switch. No awkward manipulation, such as that necessary with the Dimitry syringe, is required to reestablish suction.

OPERATIVE TECHNIQUE

An erisophake extraction is made easier if the pupil is well dilated, and for that purpose 5 per cent homatropine and 10 per cent Neosynephrin® are instilled about 45 minutes before operation. The addition of hyaluronidase to the procaine-epinephrine combination greatly improves the effectiveness of the O'Brien and retrobulbar anesthesia. The corneal section is then performed; corneal sutures are inserted; and the corneal section is enlarged to 180 degrees. Iridectomy is then done, although an extraction may be carried out through a round pupil. It is advisable to elevate the corneal flap while introducing the suction instrument into the anterior chamber so that the suction cup can be accurately applied to the lens capsule without contact with the corneal endothelium or the iris. A firm but delicate grasp of the lens capsule is achieved as soon as the vacuum pump is turned on. The maneuver of cataract extraction with the erisophake is far simpler than when capsule forceps are employed. Except in those cases in which the zonules are relatively tough, little if any pressure need be applied to the vitreous body because the initial traction on the lens capsule by the vacuum cup often breaks many of the zonular attachments and a slight side-to-side rocking of the cataract completes the rupture of the zonules. The lens can be tumbled in the orthodox manner, but it is easier to roll the cataract out or slide it out "head first." Counterpressure is limited to the small amount needed to guide the lens through the corneal section. If the suction cup is tilted away from the lens capsule, the vacuum may be momentarily interrupted, but the surgeon can immediately restore the suction of the motor-driven instrument by merely reapplying the cup to the lens. If on rare occasion the lens capsule breaks during the delivery, the operation can be continued as an extracapsular procedure.

The surgeon who uses the erisophake has the gratifying assurance that the vast majority of cataracts in the adult can be extracted intracapsularly without loss of vitreous and with excellent visual results. In the author's surgical series, intracapsular extraction was achieved in only 62 per cent of cases when the forceps were employed, but since the erisophake was adopted the percentage of successful intracapsular deliveries has risen to approximately 90 per cent and there have been no complications.

1060 East Green Street.

REFERENCES

1. Barraquer, J. A.: Phacoerisis, Arch. Ophth., 50:307, July 1921.

2. Bell, A. E.: A modified erisophake, Amer. Jour. Ophth., 31:610, May 1948.

3. Castroviejo, R.: Theoretical and practical study of the intracapsular cataract extraction, Amer. Jour. Ophth., 15: 406-416, May 1932.

4. Crossley, E. R.: Intracapsular cataract extractions by the vacuum cup method, Amer. Jour. Ophth., 15:1147-1149, Dec. 1932.

5. Dimitry, T. J.: A vacuum grasping instrument for removal of cataract in capsule, Arch. Ophth., 9:261-263, Feb. 1933.

6. Fisher, W. A.: Senile cataract. The present status of intracapsular operation, Ill. Med. Jour., 65:437-440, May 1934.

7. Harrington, D. O.: Mechanics of intracapsular cataract extraction, Arch. Ophth., 42:23-41, July 1949.

8. Hulen, V. H.: Vacuum fixation of the lens and flap suture in the extraction of a cataract in its capsule, Trans. Sect. Ophth., A.M.A., pg. 122, 1911; J.A.M.A., 57:188, July 15, 1911.

9. Kirby, D. B.: Procedures in intracapsular cataract extraction, Amer. Jour. Ophth., 25:269-277, March 1942.

10. Knapp, A.: Present state of the intracapsular cataract operation, Arch. Ophth., 38:1-38, July 1947.

11. Nugent, O. B.: Cataract extraction, Texas State Jour. Med., 32:664-671, Feb. 1937.

12. Thomas, C. I.: Cataract extraction by the suction method, Arch. Ophth., 39:805-815, June 1948.

13. Thomas, C. I.: Suction instrument for cataract extraction, Amer. Jour. Ophth., 28:317, March 1945.

14. Veirs, E. R.: The use of the erisiphake in cataract extraction, South. Med. Jour., 42:392, May 1949.

15. Wolfe, O., and Blaess, M. J.: The Barraquer intracapsular cataract extraction, E. E. N. & T. Monthly, 14:200, July, 1935.

16. Wright, R. E.: A series of 250 cataract extractions by Barraquer's method, Brit. Jour. Ophth., 9:57-63, 1925.

Discussion by MAURICE W. NUGENT, M.D., *Los Angeles*

I cannot recommend this method of cataract extraction too highly. I have used the Castroviejo suction kit in over 200 consecutive cases of adult cataract, and intracapsular extraction was obtained in 92 per cent. Vitreous loss occurred in 4 per cent of cases. Surgically, the results could be represented by a figure of 98 per cent.

In this series there were mature and immature senile cataracts both nuclear and cortical, capsular cataracts, diabetic cataracts and cataracts secondary to glaucoma and surgical treatment for that disease, and to iridocyclitis. Two capsules were broken in cataract extractions that followed iris inclusion operations, but results were excellent. In other words, no attempt was made to select cases. No complication occurred that could in any way be attributable to this method of extraction.

Corneal section was used in all cases, and one, two or three corneoscleral silk sutures were used (I recommend three or at least two). A bubble of air was almost always placed in the anterior chamber at the end of operation. Round pupils (with peripheral iridectomy or iridotomy) were easily obtained. However, I would like to go on record as stating that I definitely prefer complete basal iridectomy in cataract extractions, no matter what method is used in removing the lens. My reason for this is that extraction is usually easier and postoperative complications definitely less.

In using suction I prefer to place the cup at or just below the center of the lens and to use a minimum of counterpressure. The cup, when in place, should be moved from side to side as with forceps, with some attempt to create torsion by horizontal rotation. Then, when zonules are adequately broken, the lens may be delivered by elevation and sliding.

Dr. Alexander's statements and experiences are so similar to mine that further discussion would only be repetitious.

CASE REPORTS

- Anal Herpes with Generalized Varicelliform Eruption
- Rat Bite Fever—Response to Streptomycin Therapy

Anal Herpes with Generalized Varicelliform Eruption

Report of a Case

C. I. Hamilton, Jr., M.D., *San Antonio, Texas,* and E. K. Perkins, M.D., *San Francisco*

ALTHOUGH the occurrence of generalized varicelliform eruption with herpes zoster has been discussed previously, the case here reported is noteworthy because of unusual distribution of the herpetic lesion over the perineal region. Blank and Best[1] stated that herpes zoster involves the sacral nerves in less than 2 per cent of cases. In the present case, anal localization of the painful eruption led to the initial impression that the patient had a proctologic lesion, such as rectal abscess or anal fistula.

CASE REPORT

A 54-year-old dentist entered the Franklin Hospital, San Francisco, with complaint of a steady rectal pain which had increased in severity over a period of seven days.

At the onset there was dull steady pain in the rectum which was exacerbated by defecation. No significant alteration in the bowel habit occurred, and the stools were negative for gross blood or pus. The pain became more severe and was described as lancinating in quality at times. Dysuria, which consisted of burning, localized to the left side of the urethra, was present on the second day. On the third day, sharp pain radiated down the posterior aspect of both legs to the heels. It became steady and severe, and was exacerbated by ambulation.

The patient consulted a physician who noted no abnormality in a proctoscopic examination. On the following day, five days after onset, the oral temperature was 100°F., and the patient noted an erythematous patch, 8 by 4 cm. in size, to the left of the anal margin. Fearing rectal abscess, the patient ingested 3 gm. of aureomycin in a period of 36 hours. The temperature became normal, but because of the unrelenting pain, the patient entered the hospital on the seventh day.

The patient had not had varicella as a child, and had not known recent contact with this disease.

Upon physical examination a diffuse semicircular patch of erythema was noted, starting sharply at the midline adjacent to the anal margin and extending laterally to the left, approximating the sensory distribution of the fourth and fifth left sacral nerves. There were 12 vesicles of about 5 mm. in diameter, and the entire area was moderately tender. Digital and proctoscopic examination was performed without difficulty, but no further abnormality was observed. Except for palpatory tenderness of both heels, the remainder of the physical examination was negative. The blood and urine were normal, no abnormality was noted in an x-ray film of the chest, and the result of a Wassermann test was negative for syphilis.

A tentative diagnosis of herpes zoster was made, and local therapy and oral analgesics were given. Although the patient felt more comfortable, the temperature rose to 100°F. The following morning there were several erythematous papular lesions on the trunk which did not follow a specific nerve distribution. Later in the day the patient complained of generalized myalgia, anorexia and moderate frontal headache. Several new papules had appeared on the perineum and scrotum. Aureomycin was given orally, 250 mg. every four hours. Four hours later the patient was more uncomfortable and the temperature was 102.2°F. The previously noted papular lesions had become vesiculated and about 50 new erythematous papules on the trunk had appeared.

During the ensuing 48 hours the patient became afebrile and the papular exanthem faded rapidly without vesiculation, in contrast to the lesions present before administration of aureomycin. The primary herpetic lesion was involuting, and the severe pain had disappeared on the fifth hospital day. The dosage of aureomycin was reduced to 250 mg. every six hours. The patient remained afebrile for the next three days and aureomycin was discontinued. There were no remaining symptoms except for pruritus ani, which cleared completely in the ensuing week.

DISCUSSION

Le Feuvre[6] in a survey of the *British Medical Journal* from 1913 to 1927 found reports of 35 cases of herpes zoster followed within one to four days by a varicelliform eruption. Cipollaro[3] reported cases followed in five days by generalized vesicular eruption. Valentine[8] described the case of a 54-year-old male who had pain with a segmental vesicular eruption on the back and right arm. This was followed the next day by a fever of 102°F. and the characteristic rash of chickenpox over the trunk which cleared shortly without complication.

Sprecher,[7] in commenting on the rarity of anoperineal involvement with herpes zoster, stated that the eruption becomes increasingly rare as lower segments along the spinal axis are affected. He described a case similar to that of this report, characterized by severe anal pain spreading to the buttocks and thigh with regional adenopathy and closely following perineal rash which was mistaken for eczema.

In the present case the pruritus ani may have been a postherpetic manifestation or, as Harris[5] suggested, may have been caused by aureomycin. Harris described anal fissuring and bleeding in two female patients, and anal itching and burning in one male patient who had received aureomycin. It was felt that the anal symptoms could have been caused by interruption of the synthesis of vitamin B complex by the intestinal flora or by an overgrowth of Monilia albicans following the suppression of normal enteric bacteria by aureo-

mycin. It is possible that one or both of these factors accounted for the pruritus in the case here reported. The rapidity with which the generalized eruption and fever disappeared suggests response to aureomycin, although the authors have observed several cases in which herpes zoster subsided spontaneously within a similar period.

SUMMARY

A case of herpes zoster with unusual distribution over the perineal region is reported. A generalized varicelliform eruption followed soon after the initial lesion and cleared without complication while the patient was receiving aureomycin.

Lackland Air Force Base, San Antonio.
Franklin Hospital, San Francisco.

REFERENCES

1. Blank, H., and Best, J.: A case of herpes zoster with unusual distribution, Urol. & Cut. Rev., 50:411, July 1946.

2. Case, R. B.: Aureomycin in the treatment of herpes zoster, Calif. Med., 71:214, Sept. 1949.

3. Cipollaro, A. C.: Herpes zoster accompanied by generalized vesicular eruption, Med. Jour. & Rec., 134:182-185, Aug. 1931.

4. Dawson, L. M. and Simon, H. C.: Herpes zoster: Treatment with chloramphenicol, South. M. Journal, 42:696-697, Aug. 1949.

5. Harris, H. J.: Aureomycin and chloramphenicol in brucellosis, J.A.M.A., 142:161-165, Jan. 21, 1950.

6. Le Feuvre, W. P.: Herpes zoster and varicella, Brit. Med. Jour., 2:549, Sept. 1928.

7. Sprecher, A., Jr.: Herpes analis, Dermat. Wchnschr., 107:1376-1377, Nov. 1938.

8. Valentine, J. J.: Herpes zoster and varicella, N. Zeal. M.J., 46:538, Dec. 1947.

Rat Bite Fever — Response to Streptomycin Therapy

WILLIAM P. FRANK M.D., and ALBERT G. BOWER, M.D.,
Los Angeles

AN acutely ill five-month-old male Mexican baby was admitted to the Communicable Disease Unit of the Los Angeles County Hospital. The baby had been well from birth until five days previously when he was bitten by a rat on the right little finger. Two days later he became febrile and very irritable.

On admission to the hospital the patient had a temperature of 103.8° F., a pulse rate of 150, and respiratory rate of 36. There was a healing abrasion on the right fifth finger, and a few macules scattered on the trunk, but no other findings. Leukocytes numbered 14,000 with 55 per cent polymorphonuclears and 45 per cent lymphocytes. The hemoglobin content was 6 gm. per 100 cc. The urine and spinal fluid were normal. Blood was taken for culture and routine agglutinations.

The subsequent course in the hospital was stormy. The temperature was "septic," with peaks to 104.6° F. Special nursing care was provided and a blood transfusion was given on the second hospital day. On the third day pronounced painful swelling of all fingers and toes developed and there was a fine maculopapular eruption on the trunk and extremities. On the fifth day an organism grown on the blood culture was identified as Streptobacillus moniliformis. The baby was then treated with streptomycin—an initial dose of 0.5 gm. followed by 0.25 gm. every four hours.

The response was striking. Temperature dropped to normal within 24 hours and stayed so. The toxic manifestations, arthritis, and rash rapidly disappeared. The baby was given 1 gm. of streptomycin daily for one week and then discharged from the hospital, cured.

SUMMARY

The clinical picture of the case of rat bite fever (Haverhill fever) presented here was typical: Rat bite, "septic" fever, rash and arthritis. The Streptobacillus moniliformis was identified on a culture of blood. There was striking response to streptomycin therapy.

From the University of Southern California Medical School and the Communicable Disease Unit of the Los Angeles County Hospital.

California MEDICINE

OWNED AND PUBLISHED BY THE CALIFORNIA MEDICAL ASSOCIATION
450 SUTTER, SAN FRANCISCO 8 PHONE DOUGLAS 2-0062

Editor, DWIGHT L. WILBUR, M.D. *Assistant to the Editor*, ROBERT F. EDWARDS

Editorial Executive Committee

ALBERT J. SCHOLL, M.D., Los Angeles H. J. TEMPLETON, M.D., Oakland

EDGAR WAYBURN, M.D., San Francisco

For Information on Preparation of Manuscript, See Advertising Page 2

EDITORIALS

Medical Education as It Should Be

The American Medical Association performed a master stroke at its recent Cleveland meeting when it announced the appropriation of $500,000 for distribution among the country's medical schools. Immediately the principal sum was announced, individuals and others added several thousands more and the way was left open for further contributions.

Coming at this particular time, the A.M.A. appropriation serves not only as a stimulus to some of the medical schools that have had financial troubles but also as an answer to those critics, in government and out, who have looked askance at the association's opposition to federal funds for medical schools. The most conservative of these critics have considered the A.M.A. as reactionary; the least conservative have charged that by opposing federal grants to medical schools the "medical trust" is attempting to limit the number of new medical graduates and thus build a private economic reserve for present physicians. The absurdity of such charges does not warrant an answer but the propagandists continue their wild accusations.

Those in government know only too well the dictum of the U. S. Supreme Court in its holding that where the federal government contributes funds it must dictate the use of such funds. Translated into terms of federal funds for medical schools, this rule would necessarily imply that the federal government could and must dictate to the medical schools their courses of study, methods of instruction and all other administrative matters; as applied to the students, it could well be twisted into a mortgage on the future services of any physician attending a federally aided medical school.

These are the dangers the medical profession has seen in the proposed granting of government moneys to our medical schools. The entire profession has been well represented by the American Medical Association in its opposition to the federal fund proposal. True, some medical school officials have succumbed to the lure of "free money" because of the expediency of the idea. On the other hand, to the everlasting credit of some deans, there has been a wide area of disapproval of federal money and adherence to the principle that all other sources of funds must first be exhausted before Uncle Sam was allowed to put his finger on our medical schools and our medical students.

The voting of a substantial sum by the A.M.A. sets the ball in motion for the private support of our needy medical schools. It shows that the medical profession can and will take care of its own; it shows that physicians individually and collectively prize their academic freedom and their right to establish their own courses of study on the basis of science and not politics. The doctor is and must be trained to serve his patients, not a government official. To lose that tradition would set medical practice back hundreds of years and would inevitably lead to an even greater measure of federal domination of the profession and of all other phases of American life.

It is fortunate that the A.M.A. funds are coming from the moneys raised for the National Education Campaign. Here is a real boost to education, carried directly to the education of our doctors. The announcement of the appropriation carried the state-

ment that "this fund will be given to the medical schools for their unrestricted use in their basic training of future physicians." If the federal government had been able (even if willing) to use that adjective "unrestricted," there probably would have been little opposition to its offer of assistance to the schools. In the circumstances, the doctors have been wary of the gift-bearing Greeks. Now they have found their own way out of a dilemma, a way which preserves all that is finest in medical education as well as in the traditions of American competitive enterprise.

One thing remains. The American Medical Association has opened the door to the support of medical education by calling on its own members to contribute to the cause. The profession has long worked to improve its scientific knowledge and has accomplished noteworthy gains in that direction. Now it has the opportunity of seeing to it that its own members, during their years of practice, contribute annually to the maintenance of educational courses which cost far in excess of the ability of the students to pay.

The medical student enjoys four or more years of education at a price much below cost. Why should he not, when he is able, contribute modestly toward the bridging of the gap between costs and tuition for medical students? It is hoped that state and county medical societies, specialty groups, fraternities and other medical organizations will go along with the A.M.A. and establish the helping hand ideal on a firm base. By doing so, medicine will retain its rightful pride in its educational processes and will gain the unstinted acclaim of all citizens who love freedom and are willing to contribute to it.

Eleven Years After

With the start of a new year we can look back over the accomplishments of the year just gone and farther back to the end of 1939, when California Physicians' Service was put into operation. Eleven years after this event, the product looks very good from all points of view.

C.P.S. was started after years of study by a large group of thinking physicians who recognized the public need for a sound, statewide, ethical plan to budget the costs of medical care. Of all the plans under consideration over the years, the service type represented by C.P.S. offered the most practical method of providing a high type of service for the public and simultaneously giving the doctors control over the disposal of their professional services.

Starting on an uncharted course, C.P.S. ran into its full quota of difficulties, both with the public and with the profession. As each obstacle was encountered in its empirical course, C.P.S. found a way of meeting the problem and guiding itself into the channel best designed to provide smooth sailing. This process still goes on, as witness the recent developments in the operations of the first statewide, physician-sponsored health insurance program in the country.

Within the past year C.P.S. has been able to make adjustments in its contracts, to assure the earning of a full fee schedule and get away from the discount basis of payment which has existed ever since its starting days. The new contracts are being installed as rapidly as possible. Physician members may look forward to receiving more adequate compensation under this program.

Also within the past year C.P.S. has strengthened its physician relations department, that branch which contacts nurses and secretaries to assist them in their handling of C.P.S. cases, forms and other matters. Along the same line, a Physician's Manual is under way for early distribution, to give the doctor a concise picture of how C.P.S. cases may be most effectively handled in the mutual interest of the doctor and the patient.

County review committees have been set up throughout the state, each appointed by the president of the county medical society. These committees give every doctor a chance to bring before his own colleagues any C.P.S. problems which may be confronting him. The committees serve as a sounding board of local opinion and provide a real grass roots control over C.P.S. The House of Delegates of the C.M.A., sitting as Administrative Members of C.P.S., also brings the control of the organization right back to the local community.

As of the end of 1950 C.P.S. reports close to one million beneficiary members and more than 10,750 physician members. This expression of confidence from both the public and the medical profession is eloquent evidence of the need for the service provided and the public acceptance of the doctors' own plan. C.P.S. is literally a great force in the fields of human service and public opinion. In actual practice, C.P.S. stands as the profession's greatest bulwark against the encroachment of politically-sponsored health insurance plans.

To the public, California Physicians' Service represents the guide for budget-basis medical care, the leader which sets consistently higher standards for others to emulate in serving the public. To the medical profession, C.P.S. is an expression of the doctors' own ability to meet a public demand under controlled conditions which protect the physician-patient relationship and the quality of the care provided. Consistent improvement in operating methods is ironing out the little details of trouble; meanwhile, the concept remains sound, stable and greatly important.

A Medical Corps for the Armed Services

Reprinted from the October 1950 issue of Surgery, Gynecology and Obstetrics

Once more with the steadily approaching specter of a general world war, there is a stockpiling of all the commodities of combat against the day of eventual full emergency. Airplanes, tanks, atom bombs, food, combat personnel; in fact, all the armamentarium is being assembled for readiness.

Unheeding an experience no more than five years past, there is every evidence that the medical profession is to be regarded as a commodity which can be stockpiled and expended extravagantly. In fact, high command military officials, speechmaking Congressmen and glib, syndicated columnists support the demands for doctors by charges which intimate disloyalty and ingratitude on the part of physicians. Unfortunately, these statements have been supported by spokesmen for the medical profession.

The United States has never been engaged in any war wherein the medical profession has deported itself in any way except to the benefit of the wounded, the honor of the nation and to its own great credit. Moreover, in the minds and hearts of the doctor soldiers, the importance of their contributions has always been in that order.

It was generally conceded at the end of World War II that the care rendered the wounded by American doctors was the best in the history of any war and certainly better than the average care received by the casualties of any other nation.

All of this was done with a concerted effort by a profession whose principles are those of saving life rather than inflicting death. There is no instance which would indicate that the individual doctor is any less loyal to the support of his government than any other citizen and there is abundant evidence that as a profession physicians have been an outstanding example of group patriotism.

Now, however, doctors are to be drafted into the military services. It would seem appropriate to examine some of the circumstances surrounding the precipitate legislation which has been hurried through the Congress and which can and may lead to the peacetime regimentation of doctors without the necessity of passing a bill for socialized medicine.

It has been stated that those young doctors who were in medical school during World War II in either Army or Navy educational programs owe their education to the government. It has never been pointed out, however, that the majority, if not all, of those medical students had chosen medicine as their life's work and were either enrolled in medical schools or were engaged in their premedical education. They were inducted into the Army or Navy and, *at the convenience of the government*, were ordered to units which insured the continuation of their studies and the production of doctors necessary to the war effort.

Young men were given intelligence and aptitude tests which were designed to convince the Army and Navy that they were suited to become doctors. What prevented the assignment of these men to combat units which Congressmen and columnists have indicated would have been a more honorable service?

The evidence of the beliefs of these gentlemen lies in their columns and in their revisions of the Selective Service Law. It is undoubtedly a fact that every medical student during the period of World War II would have become a doctor upon his own initiative and by his own mental and financial efforts. Why, then, should this group of young doctors be stigmatized by what is apparently and admittedly class legislation? Other men were trained in other fields during the past war and upon their return to civilian life have taken advantage of that training. It is right that this be so, but do they owe that training to the government which ordered it to suit the needs of the military? Did they not serve honorably and well?

Why is it that the medical profession has not volunteered in numbers sufficient to make a draft unnecessary? The answers lie within the organization of the Medical Corps of the Army, Navy and Air Force.

Is it unreasonable to assume that their attitude may have been colored by firsthand knowledge of the frustrations, stupidities and inefficiency of direction suffered just a few years ago? Doctors were justifiably irritated by the inanities of plans and training programs, forced upon them, not through reason, but by superior rank and written rule to support that rank. They remember not being allowed to schedule operations because upon that morning all doctors must devote themselves to the inspection of latrines, the motor pool and the enlisted men's day room. They remember being ordered to leave their wards of sick and wounded men to act as military police for two weeks, before being allowed to come up for promotion in rank. During those two weeks, instead of treating battle wounds, malaria, or hepatitis, they remember making the rounds of houses of prostitution to rout out the wayward G.I., or they trapped the unwary soldier on the street for not saluting properly, or they caught him out on pass and made him roll down his sleeves or jerk up his tie. Might not these be examples of the extravagant use of the medical profession?

It is also difficult for the civilian doctor to understand why the Navy, Army and Air Force insist upon having separate and distinct hospitals under their own command. It is hard for the surgeon to understand why a fractured femur, regardless of whether it was sustained in ground combat, on a ship, or in an airplane accident, should not be treated in the same manner in one hospital to which any soldier, marine, sailor or airman might be sent.

It is difficult for the civilian doctor to understand why unification, not upon paper but actual unification, of the medical services to the wounded cannot be effected. The medical profession knows that the office of the medical director to the Department of Defense is not unification of the medical services. There would seem to be only two answers possible which would explain the failure to implement the recommendations submitted for unification of the medical services. One answer is political expediency, because it is obvious that the President of the United States, as Commander-in-Chief, could put such a unification plan into effect immediately. True it is, that he would have to dismiss the present surgeons general of the Army, Navy and Air Force. The second reason is that command of separate hospital installations means command of personnel and the latter means the distribution of rank according to tables of organization. Rather simply stated, three separate medical services mean more colonels and generals.

Finally, the attitude of the civilian doctor toward the present military situation may reflect his concern over the fact that he knows that never again can medical talent be squandered in time of war. Atomic all-out warfare means medical care for the entire civilian population as well as those in combat. The thoughtful doctor knows that the abilities of his profession, private and public hospital facilities, medical supplies, indicated elective surgical procedures; in fact all medical care in this country will have to be rationed circumspectly. He knows that in the hospitals of the Veterans Administration there are beds occupied by patients with nonservice-connected disabilities which could be used for the present Korean casualties. He knows that they would receive the highest type of medical care in the several veterans' hospitals associated with medical schools; he knows that men whose wounds require amputation of an extremity should be flown immediately to those veterans' hospitals wherein they may receive the benefits of all of the research and investigations which have been carried on in recent years upon prosthetic appliances and rehabilitation of the amputee; he knows that the Army, Navy and Air Force should have staffed and organized their hospitals by the part-time services of the civilian doctors in peacetime so that the transition to war could have been smooth and uninterrupted; he knows that this was not done because a doctor in civilian clothes does not fulfill the requirements of a table of organization for command purposes; he knows that the Veterans Administration enrollment, organization and utilization of the civilian medical population has been successful.

There should be a medical corps for the armed services and hospitals for the sick and wounded from any branch of the armed services. Indoctrination of doctors into the combat field peculiarities of ground, sea or air fighting is not an insurmountable task under such a service. It would not be difficult to create a pool of regular armed service doctors who would be attracted to such a career of medical and public health administration and would be competently trained to coordinate the efforts of the civilian doctor brought into the emergencies of war. It would be far better for efforts to be expended toward such a goal than to initiate draft legislation which is another step toward the complete regimentation of the American people.

Loyal Davis

UNIVERSITY OF MARYLAND
LIBRARY
Founded 1813
SCHOOL OF MEDICINE

CALIFORNIA MEDICAL ASSOCIATION

DONALD CASS, M.D. ..... President
H. GORDON MacLEAN, M.D. ..... President-Elect
LEWIS A. ALESEN, M.D. ..... Speaker
DONALD A. CHARNOCK, M.D. ..... Vice-Speaker
SIDNEY J. SHIPMAN, M.D. ..... Council Chairman
ALBERT C. DANIELS, M.D. ..... Secretary-Treasurer
DONALD D. LUM, M.D. ..... Chairman, Executive Committee
DWIGHT L. WILBUR, M.D. ..... Editor
JOHN HUNTON, Executive Secretary ..... General Office, 450 Sutter Street, San Francisco 8
ED CLANCY, Field Secretary ..... Southern California Office, 417 South Hill Street, Los Angeles 13. Phone: MAdison 8863

Council Meeting Minutes

Tentative Draft: Minutes of the 376th Meeting of the Council, San Francisco, November 5, 1950.

The meeting was called to order by Chairman Shipman in Room 220 of the St. Francis Hotel, San Francisco, at 9:30 a.m., Sunday, November 5, 1950.

Roll Call:

Present were President Cass, President-elect MacLean, Speaker Alesen, Vice-Speaker Charnock, Councilors Ball, Crane, Henderson, Dau, Ray, Montgomery, Lum, Pollock, Green, West, Heron, Frees, Thompson, Shipman, Bailey; Secretary Daniels and Editor Wilbur. A quorum present and acting.

Present by invitation were Executive Secretary Hunton, Assistant Executive Secretary Wheeler, Legal Counsel Hassard, Field Secretary Clancy; Dr. D. H. Murray, legislative chairman; Dr. Henry L. Gardner, secretary of California Physicians' Service; Dr. John R. Upton, Blood Bank Commission chairman; Messrs. Clem Whitaker, Jr., Ned Burman and James Dorais of public relations counsel; and county society executive secretaries Waterson of Alameda, Wood of San Mateo, Gillette of Fresno and Tobitt of Orange; Dr. Howard Naffziger, present for a portion of the meeting.

1. *Minutes for Approval:*

On motion duly made and seconded, minutes of the 375th Council meeting, held September 9, 1950, were approved.

2. *Membership:*

(a) A report of membership as of November 3, 1950, was received, showing 10,764 active members.

(b) On motion duly made and seconded, one member whose 1949 dues had been received since the last Council meeting was voted reinstatement.

(c) On motion duly made and seconded, all members whose 1950 dues had been received since the last Council meeting were voted reinstatement.

(d) On motion duly made and seconded in each instance, three applicants were elected to Life Membership. These were: Frank H. Bowles, Alameda County, and Pliny F. Haskell and Clarence A. Johnson, Los Angeles County.

(e) On motion duly made and seconded, Dr. Thomas M. McMillan of San Diego County was elected to Associate Membership.

(f) On motion duly made and seconded, a reduction in dues was voted to seven applicants because of postgraduate study or prolonged illness.

3. *Financial:*

(a) A report showing bank balances as of November 3, 1950, was received and ordered filed.

(b) A report of receipts and expenditures for October and for the four months ended October 31, 1950, was received and ordered filed.

(c) The Executive Secretary reported that all recommendations made by the certified public accountants had been put into effect except the proposal to review the fidelity bonds in effect. On motion duly made and seconded, it was voted to secure a $25,000 total fidelity bond to cover all Association employees, in the head office or elsewhere, and the Association officers whose names appear on bank signature cards.

(d) On motion duly made and seconded, it was voted to establish the level of the Revolving Fund at $35,000, this account now representing a combination of three previous accounts.

(e) On motion duly made and seconded, it was voted to transfer to the Trustees of the California Medical Association the account now carried as the Herzstein Bequest Fund, the transfer to be made January 1, 1951, and the fund to be held as a trust fund by the trustees.

(f) Report was made that New Mexico Physicians' Service had made an additional payment of $500 on its loan, reducing the balance to $13,000.

(g) On motion duly made and seconded, it was voted to put into effect the previous wartime provisions for acceptance of new members in military service without the payment of dues and for pro rata refund of dues to members who enter military service during the calendar year.

4. *Committee on Hospitals, Dispensaries and Clinics:*

On motion duly made and seconded, Dr. Carl Mulfinger was appointed a member of the Committee on Hospitals, Dispensaries and Clinics, to succeed Francis E. Jacobs, deceased.

5. *Committee on C.P.S. Fee Schedule:*

On motion duly made and seconded, Dr. Alfred C. Dick of Del Mar was appointed a member of the Committee on C.P.S. Fee Schedule, to succeed Francis E. Jacobs, deceased.

6. *Committee on Industrial Accident Commission:*

On motion duly made and seconded, Dr. Frank A. MacDonald was appointed a member of the Committee on Industrial Accident Commission, to succeed Christopher Leggo, resigned.

7. *Committee on Public Health and Public Agencies:*

Chairman Alesen of the Committee on Public Health and Public Agencies distributed a report on the activities of the committee and it was agreed, subject to certain portions of the report being taken up at this time, that the Council would consider the report as a whole at its next meeting.

Dr. West reported on a meeting held with representatives of the National Foundation for Infantile Paralysis in an effort to secure clarification of certain policies covering the care of polio patients. A further meeting is to be held and satisfactory action expected.

On motion duly made and seconded, it was voted to approve the portion of the report dealing with examination and approval for certain functions of a school for training medical assistants.

On motion duly made and seconded, it was voted to refer back to the committee a proposal for the Association to conduct a pilot study on a multiphasic screening program, this study to be made by the committee or by a selected subcommittee and report to be made to the next meeting of the Council.

8. *Committee on Clinical Material for Teaching Hospitals:*

A report of the special Committee on Clinical Material for Teaching Hospitals was received and discussed. On motion duly made and seconded, it was voted to refer this report back to the committee for additional data and for a further study of means for carrying out the recommendations of the report.

9. *Advisory Planning Committee:*

Mr. Hunton reported that the Advisory Planning Committee had voted to commend Mr. Clancy for the splendid service he had performed in managing a ballot proposition campaign in Los Angeles. The Council expressed its appreciation.

At the request of the Committee and on motion duly made and seconded, it was voted to express to Rexall Drug, Inc., the thanks of the Association for the support of that organization in the Los Angeles campaign.

At the request of the Committee it was agreed to seek means of securing a greater degree of control over organizations entering into local campaign issues and reflecting undue discredit on the medical profession.

Mr. Hunton reported that the Committee had evolved an outline of a public relations program for the Association and would send copies to all members of the Council for consideration at a later meeting.

10. *Alameda-Contra Costa Medical Association:*

All steps for the amalgamation of the county medical societies in Alameda and Contra Costa counties having been completed, the Chairman presented a charter for the Alameda-Contra Costa Medical Association to Councilor Lum, representing the Seventh Councilor District.

11. *Blood Bank Commission:*

Dr. John R. Upton, chairman of the Blood Bank Commission, reported that the banks in San Francisco and Alameda counties were already drawing blood for overseas shipment and that two additional banks, in Fresno and Santa Barbara, had secured National Institute of Health licenses and were ready to start similar shipments.

Dr. Upton reported that eight blood banks are now in operation in the Commission's program, one will be ready to operate within 30 days, one is in the organization stage and four others are needed to complete the program.

12. *California Physicians' Service:*

Dr. Henry Gardner, secretary of C.P.S., reported that C.P.S. has now separated from Hospital Service of Southern California as to joint operations or issuance of contracts, that no appreciable loss to C.P.S. has been incurred in this separation and that C.P.S. sales are going well. He also reported that new contracts are showing a satisfactory return and that it is hoped by next spring to be able to meet the full unit value.

Discussion was held on the C.M.A.-C.P.S. liaison committee approved by the Council and it was agreed that this committee should be activated with the named members, the representatives of the House of Delegates to be named by that body when and if the House of Delegates confirms the action of the Council in appointing this committee.

13. *White House Conference on Children and Youth:*

On motion duly made and seconded, it was voted to name Dr. Hartzell Ray as an official reporter for California Medicine to cover the White House Conference on Children and Youth, to be held in Washington, D. C., early next month.

14. *Delegates to A.M.A.:*

Discussion was held on possible instructions to the delegates to the A.M.A. for the meeting to be held in Cleveland December 5 to 8, 1950. No formal instructions were issued but it was agreed that any joint board for hospital standardization, pos-

sibly to be named by the A.M.A. and other organizations, should consist of a majority of physicians.

A motion was made and seconded for the Association to defray the expenses of section delegates to the A.M.A. who were California members, but on motion duly made and seconded, this motion was tabled.

15. *Public Relations:*

On motion duly made and seconded, it was voted to leave to the determination of the Executive Committee the discontinuance of the current radio program, as previously voted by the Council.

Mr. Whitaker reported to the Council on several items of current interest.

16. *Fee Complaints:*

Dr. Charnock reported that the secretary of one county medical society appeared to believe that the Association was not thoroughly backing up the county societies in their efforts to adjust and eliminate excessive fees. The Executive Secretary was instructed to write to this secretary to show the available areas of cooperation.

17. *Time and Place of Next Meeting:*

On motion duly made and seconded, the time and place of the next meeting were left to the call of the chairman.

Adjournment:

There being no further business to come before the meeting, it was adjourned at 5:30 p.m.

SIDNEY J. SHIPMAN, M.D., *Chairman*
ALBERT C. DANIELS, M.D., *Secretary*

Executive Committee Minutes

Tentative Draft: Minutes of the 224th Meeting of the Executive Committee, San Francisco, November 30, 1950.

The meeting was called to order by Chairman Donald Lum in Room 221 of the St. Francis Hotel, San Francisco, at 4:00 p.m., Thursday, November 30, 1950.

Roll Call:

Present were President-Elect MacLean, Speaker Alesen, Council Chairman Shipman, Auditing Committee Chairman Lum, Secretary Daniels and Editor Wilbur. Absent for cause, President Cass.

A quorum present and acting.

Present by invitation during all or part of the meeting were Dr. John W. Cline, President-Elect of the American Medical Association; Dr. D. H. Murray, legislative chairman; Dr. John R. Upton, chairman of the Blood Bank Commission; Dr. Francis J. Cox, chairman of Industrial Accident Commission Committee; Messrs. John Hunton, executive secretary; William P. Wheeler, assistant executive secretary, and Howard Hassard, legal counsel.

1. *Blood Bank Commission:*

Dr. John R. Upton, chairman of the Blood Bank Commission, reported that a blood bank is now planned in Bakersfield as a part of the statewide system, that the San Diego Blood Bank would open December 1 and that the armed forces have asked for 26,000 units of blood from the Coast area for December, a large increase over previous requests. All banks in the California system have now adopted a uniform charge of $7.50 per unit for processing for community use, $6 for military use.

2. *National Foundation for Infantile Paralysis:*

An invitation from this foundation for a C.M.A. representative to attend a luncheon meeting on December 15 was discussed and it was agreed to ask Dr. C. V. Thompson to represent the Association at this meeting.

3. *Committee on Postgraduate Activities:*

A proposal to establish a separate bank account for the Committee on Postgraduate Activities, to receive funds received from registration fees at the five planned postgraduate institutes, was discussed. It was pointed out that the Constitution and By-Laws require that all Association funds be handled through the office of the Secretary-Treasurer and it was regularly moved, seconded and voted that this practice be followed, additional funds for the committee to be requested if desired by the committee.

4. *Legislative Reporting Service:*

On motion duly made and seconded, it was voted to continue the annual subscription of $495 to the Shearon Legislative Service.

5. *Committee on Industrial Accident Commission:*

Dr. Francis J. Cox, chairman of the Committee on Industrial Accident Commission, reported that his committee would meet with the insurance carriers' negotiating committee on December 7. He asked the opinion of the Executive Committee on a proposal to employ actuarial assistance to study the industrial fee schedule in its relationship to the cost of living, industrial wages and other pertinent factors. After considerable discussion it was regularly moved, seconded and voted to appoint a special committee to discuss this matter with officers of the American Medical Association at its coming meeting and, meanwhile, to authorize Dr. Cox's committee to explore the matter further, to report back to the next meeting of the Council. The chairman appointed Doctors Donald Cass, H. G. MacLean and L. A. Alesen as the special committee to meet with A.M.A. officials.

In regard to a request from an interim committee of the State Senate on a legislative proposal to place the making of a fee schedule in the hands of the Industrial Accident Commission, it was regularly moved, seconded and voted to authorize legal counsel to draft a reply pointing out the conditions under which such legislation would be opposed by the Association.

6. *Public Relations:*

Discussion was held on the question of discontinuing the present radio program, Dr. Cline participating. On motion by Shipman, seconded by Alesen, the question was raised of continuing the program for three months into 1951, to await legislative and other developments during the interim. On a tie vote, the motion was lost and the instructions already issued to discontinue this program at the end of 1950 were affirmed.

On motion duly made and seconded, it was voted that the chairman appoint a special committee to investigate the possibilities of using radio as a medium for disseminating messages from the Association to the public.

On motion duly made and seconded, it was voted to retain Whitaker & Baxter as public relations counsel at a fee of $750 monthly.

7. *Public Policy and Legislation:*

Mr. Arthur Will, director of charities of Los Angeles County, requested the support of the Association in opposing proposed legislation which would place on the counties and the state the obligation of contributing to funds to give a monthly stipend to persons declared permanently and totally disabled. Mr. Wills gave estimates on the number of persons who might potentially be covered by this program, showing that the cost to the State of California might reasonably be estimated at as high as $88,000,000 annually.

Mr. Hassard reported on a request from a congressional committee on campaign expenditures in behalf of candidates for the House of Representatives and was authorized to reply to the effect that the Association had taken no part in any such campaigns.

8. *Committee on Rural Medical Service:*

On motion duly made and seconded, the Committee on Rural Medical Service was authorized to conduct a Rural Health Conference without the publication of its proceedings.

9. *Appointment of Legal Counsel:*

It was reported that legal counsel for the current year had not been regularly appointed and on motion duly made and seconded, it was voted to appoint Peart, Baraty & Hassard as legal counsel at a retainer of $9,000 annually.

10. *Health Insurance Legislation:*

It was reported that the Governor of California had suggested that a conference be held on the question of state health insurance and it was regularly moved, seconded and voted that a special committee be appointed to meet with him if he so desired.

Adjournment:

There being no further business to come before the meeting, it was adjourned at 9:45 p.m.

DONALD D. LUM, M.D., *Chairman*
ALBERT C. DANIELS, M.D., *Secretary*

In Memoriam

CLARK, WILLIAM R. P. Died in San Francisco, December 10, 1950, aged 81. Graduate of Cooper Medical College, San Francisco, 1899. Licensed in California in 1899. Doctor Clark was a retired member of the San Francisco County Medical Society, the California Medical Association, and an Associate Fellow of the American Medical Association.

✤

GARDENIER, CRANE. Died in San Francisco, December 7, 1950, aged 37, of a coronary. Graduate of Stanford University School of Medicine, Stanford University-San Francisco, 1938. Licensed in California in 1938. Doctor Gardenier was a member of the San Francisco County Medical Society, the California Medical Association, and the American Medical Association.

✤

HENRY, HERMAN. Died in San Francisco, December 7, 1950, aged 38, accidentally from cyanide poisoning. Graduate of Rush Medical College, Chicago, 1937. Licensed in California in 1938. Doctor Henry was a member of the Solano County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

✤

KINDALL, LLOYD. Died in Oakland, November 16, 1950, aged 60, of bronchogenic carcinoma. Graduate of the University of Colorado School of Medicine, Denver, 1913. Licensed in California in 1915. Doctor Kindall was a member of the Alameda-Contra Costa Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✤

LIPPMAN, MARION HYMAN. Died in San Francisco, November 17, 1950, aged 58, of heart failure. Graduate of the University of California Medical School, Berkeley-San Francisco, 1925. Licensed in California in 1925. Doctor Lippman was a member of the San Francisco County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

✤

MENDELSOHN, LOUIS. Died in San Francisco, November 12, 1950, aged 71. Graduate of Worcester Medical College, Eclectic, 1904. Licensed in California in 1924. Doctor Mendelsohn was a retired member of the Santa Clara County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

✤

SINGER, JOSEPH J. Died in Los Angeles, November 8, 1950, aged 50, following a heart attack. Graduate of Northwestern University Medical School, Chicago, 1923. Licensed in California in 1943. Dr. Singer was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✤

ULLMANN, HENRY J. Died near Goleta, October 15, 1950, aged 69, in an airplane accident. Graduate of Rush Medical College, Chicago, 1912. Licensed in California in 1921. Doctor Ullmann was a member of the Santa Barbara County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

California Medical Association

Revised Proposed Constitution Submitted by Reference Committee No. 3, April 30, 1950

(Second Publication)

Herewith is printed for the second time in California Medicine, *the proposed C.M.A. Constitution introduced in the 1950 House of Delegates by Reference Committee No. 3 of that body.*

Included in this document is an additional proposed section introduced by Reference Committee No. 3 as an addendum to its original introduction of the proposed Constitution.

Members of the Association, and especially members of the House of Delegates, are urged to give this proposed Constitution a thorough study. It contains various provisions which are different from existing constitutional provisions and which have been under discussion in the House of Delegates in the past.

CONSTITUTION

ARTICLE I.—NAME, PURPOSES AND ORGANIZATION

Section 1.—Name

The name of this organization is California Medical Association (hereinafter referred to as the Association).

Section 2.—Purposes

The purposes of this Association are to promote the science and art of medicine, the protection of public health, and the betterment of the medical profession; to promote similar interests of its component societies; and to unite with similar organizations in other states and territories of the United States to form the American Medical Association.

Section 3.—Organization

This Association has two divisions: One, the Association as an organization; and Two, the Scientific Assembly. The Association as an organization includes component societies and their active members, the House of Delegates, Council, Commissions and Standing Committees. The Scientific Assembly includes all members of the Association and the scientific sections.

Section 4.—Definition of Component Societies

Component societies include all county medical societies (which may cover one or more counties) heretofore or hereafter chartered by this Association.

Section 5.—Component Society Charters

Charters to component societies may be granted and revoked as hereinafter prescribed, subject to the limitation that only one charter may be outstanding at any one time in any county.

ARTICLE II.—MEMBERSHIP

Section 1.—Classes of Members

The members of this Association shall consist of Active, Associate, Honorary, Retired, Life and Affiliate members.

Section 2.—Membership Qualifications, Rights, Privileges, Duties and Method of Election

The qualifications, rights, privileges, duties, obligations and methods of election of the several classes of membership are as stated in the By-Laws.

ARTICLE III.—GOVERNMENT OF THE ASSOCIATION

Part A.—House of Delegates

Section 1.—Composition

The House of Delegates shall consist of:

(a) Delegates elected by the members of component societies;

(b) Officers of the Association as hereinafter provided;

(c) Ex officio, with the right to vote, the District Councilors, and

(d) Ex officio, without the right to vote, the Past Presidents.

Section 2.—Representation

As the By-Laws shall provide, each component society shall be entitled to proportionate representation in the House of Delegates but with a minimum of two delegates.

Section 3.—Alternates

Alternates shall be elected, as specified in the By-Laws, in the same manner as delegates are elected. One alternate shall be seated in place of each delegate absent or disqualified for failure to attend meetings or other cause.

Section 4.—Terms of Delegates and Alternates

Delegates and alternates shall serve for two or three years as each component society may determine. One-half or one-third, as the case may be, of the allowed number shall be elected each year.

Section 5.—Quorum

A majority of the authorized number of delegates shall constitute a quorum.

Section 6.—Functions of the House of Delegates

The House of Delegates shall be the legislative body of the Association and shall exercise such other functions as the By-Laws may prescribe.

Section 7.—Issuance and Revocation of Charters

(a) The House of Delegates shall issue charters to medical societies of a county or combination of counties deemed eligible and which have made proper application therefor.

(b) The House of Delegates may suspend or revoke any such charter, after due notice and proper hearing, for cause. "Cause" shall be considered to be any conduct or action, on the part of any component society, deemed in contravention of the Constitution and By-Laws of the Association or the American Medical Association or their "Principles of Medical Ethics." "Cause" shall further be deemed to be any conduct or action of a component society deemed inimical to the best interests of the Association.

(c) It may act on the withdrawal or secession of any component society from the Association and take such measures as are deemed advisable and proper for reinstatement of any component society which may have withdrawn or had its charter suspended or revoked.

(d) A two-thirds affirmative vote of the delegates present and voting shall be necessary for any action under the provisions of this section.

Section 8.—Sessions of the House of Delegates

In each year there shall be one or more sessions of the House of Delegates as fixed in the By-Laws. Special sessions may be called and held as provided in the By-Laws.

Part B.—Council

Section 9.—Composition

The Council shall consist of:

(a) Eleven District Councilors elected from the councilor districts specified in this Constitution; and

(b) Six Councilors-at-Large elected by the House of Delegates, and

(c) The President, President-Elect, and Speaker.

In addition, the Secretary-Treasurer and Editor, ex officio, but without the right to vote.

Section 10.—Councilor Districts

There are eleven districts as follows:

District Number One, comprising San Diego County.

District Number Two, comprising Imperial, Orange, Riverside, San Bernardino, Mono and Inyo counties.

District Number Three, comprising the County of Los Angeles.

District Number Four, comprising the County of Los Angeles.

District Number Five, comprising Ventura, Santa Barbara and San Luis Obispo counties.

District Number Six, comprising Kern, Kings, Tulare, Fresno, Madera, Merced, Mariposa, Stanislaus, San Joaquin, Calaveras and Tuolumne counties.

District Number Seven, comprising Monterey, San Benito, Santa Cruz, Santa Clara and San Mateo counties.

District Number Eight, comprising San Francisco County.

District Number Nine, comprising Alameda County and Contra Costa County.

District Number Ten, comprising Marin, Solano, Napa, Sonoma, Lake, Mendocino, Humboldt and Del Norte counties.

District Number Eleven, comprising Sacramento, Amador, Alpine, Eldorado, Placer, Nevada, Sierra, Yuba, Sutter, Yolo, Colusa, Glenn, Butte, Plumas, Tehama, Trinity, Shasta, Lassen, Modoc and Siskiyou counties.

Section 11.—Election of Councilors

(a) District Councilors shall be elected by vote of the delegates from each district in the manner and at the time specified in the by-laws; provided, however, that at the first meeting of the House of Delegates after a district councilor has been selected, his name shall be submitted to the House by the delegates from the district, and (1) if there is no challenge by any delegate then the speaker shall declare his election completed, and (2) if any delegate shall challenge the election on any ground, including fitness of the nominee of the district to serve as a district councilor, the questions presented by the challenge shall be submitted to a Qualifications Committee consisting of the President, President-Elect and one delegate, appointed by the speaker, from the councilor district involved. The Qualifications Committee shall consider all grounds upon which the nominee is challenged and report back to the House. If the committee reports in favor of confirming the nominee's election, the speaker shall declare him elected. If the committee reports against confirming the nominee's election, a three-fourths affirmative vote shall be necessary to sustain the report of the committee, in which event the nominee

shall be ineligible to serve as the district councilor and the delegates from the district shall immediately proceed to the selection of another nominee for the vacant office. If an adverse report of the Qualifications Committee is not sustained then the nominee shall be declared elected by the speaker.

(b) Councilors-at-Large shall be elected one by one from nominations made on the floor of the House of Delegates. Not more than two councilors-at-large shall be elected from any one councilor district.

Section 12.—Councilors: Terms of Office

Councilors shall serve for terms of three (3) years; one-third to be elected in each year.

Section 13.—Council: Powers and Duties

Subject to the provisions of this Constitution, and all resolutions and enactments of the House of Delegates, the Council shall be vested with full and complete power and authority to manage, control, use, invest, reinvest, lease, make contracts in respect of, and concerning, convey, give, grant, transfer or otherwise dispose of all property and assets of whatever kind or nature owned by the Association, and shall also be vested with full and complete power and authority to do and perform all acts and to transact all business for and on behalf of the Association and to manage and conduct all the work and activities of the Association in carrying out the purposes thereof. The Council shall have such additional duties, powers and functions as are prescribed in the By-Laws.

Section 14.—Election of Councilors on Adoption of this Constitution

Upon the adoption of this Constitution, the delegates from each of the eleven councilor districts shall proceed to elect district councilors as follows: At the annual meeting at which this Constitution is adopted the councilors of the First, Fourth, Seventh and Tenth districts shall be elected for terms of one year each; councilors of the Second, Fifth, Eighth and Eleventh districts shall be elected for terms of two years each; and councilors of the Third, Sixth and Ninth districts shall be elected for terms of three years each. Thereafter, as each term expires the delegates from each district shall elect a district councilor to serve for a term of three years.

Upon the adoption of this Constitution, the councilors-at-large holding office at the time of the adoption shall serve the remainder of their terms of office specified in the previous Constitution and as their terms expire successors shall be elected in the manner and for the terms provided in this Constitution.

Upon the adoption of this Constitution and the election of eleven district councilors the terms of office of the nine district councilors elected prior to the adoption of this Constitution will immediately cease and terminate.

ARTICLE IV.—FUNDS, PROPERTY, DUES, ASSESSMENTS AND EXPENDITURES

Section 1.—Annual Dues

At each regular session the House of Delegates shall, by a majority vote, fix the annual dues to be paid by members of the Association for the ensuing calendar year. Dues payable by active members shall be uniform and equal, except that the House of Delegates may reduce dues for certain groups (by general classification) as the By-Laws may expressly permit.

Dues payable by associate members shall be uniform and equal but may be set at not less than one half the regular dues for active members.

Section 2.—Military Service

During any period at which the United States is at war or requires services of doctors of medicine under an universal military training or draft program, annual dues may be reduced or waived by the House of Delegates with respect to those members serving in the Armed Forces of the United States during the whole or any part of any year.

Section 3.—Leaves of Absence

The Council, on recommendation of a component society, may grant leaves of absence to active members who are seriously ill and cannot practice or who leave practice temporarily for postgraduate study or other purposes acceptable to the component society and the Council and during such leave a uniform reduction of dues shall be established by the Council; provided no leave may exceed one year but shall be subject to renewal.

Section 4.—Special Assessments, etc.

Funds may also be raised by any of the following methods: (a) publications of the Association; (b) voluntary contributions; (c) bequests, legacies, devises, and gifts; (d) special assessments levied by the House of Delegates; and (e) in any other manner approved by the House of Delegates. In the event that the House of Delegates levies any special or other assessment than the annual assessment of dues, it may, in the resolution levying the assessment, fix and determine the time within which such assessment must be paid, the class or classes of members of the Association upon whom it is levied, and the penalty, if any, including forfeiture or suspension of membership in this Association or the component society, or both, to result from nonpayment thereof within the time prescribed.

Section 5.—Annual Budget and Expenditures

At each regular session of the House of Delegates, the Council shall submit to it an itemized budget stating the proposed expenditures of the Association for the ensuing year. The budget may be altered or revised by the House of Delegates, but must be adopted by the House before adjournment of the session. After its adoption, no expenditures in ex-

cess of the amount of the budget item covering the subject of such expenditures may be made in the year covered by the budget by the Association or any of its officers, agents or employees, unless the Council by a three-fourths vote of all voting members shall first approve such excess expenditure by resolution duly adopted. Recurring items in the budget (fixed expenditures covering more than one year) shall, when first adopted, be binding as to subsequent budgets to the extent of commitments or obligations entered into by the Association within authority granted by the House of Delegates or this Constitution or the By-Laws.

Section 6.—Benevolence Fund

At least $1.00 out of the annual dues paid by each active member of the Association shall be allocated to the Physicians' Benevolence Fund and shall only be used for the purposes as set forth in the By-Laws.

Section 7.—All Funds and Moneys to Be Paid to Secretary-Treasurer and Deposited With Depositary

All funds and moneys received for the Association by any officer or agent thereof shall be promptly paid to the Secretary-Treasurer and by him deposited with a depositary selected as such by the Council.

All depositaries selected by the Council shall be banks or trust companies duly licensed to transact business as such in the State of California.

Section 8.—Membership Interest in Association Property

No person other than an active member in good standing shall have any interest in the property of the Association and the interest of any active member therein shall cease when he ceases to be a member of the Association.

If any active member shall resign or otherwise cease to be an active member of the Association, all of his interest in and to all property of the Association shall cease and such cessation of membership shall operate as a release and assignment to the Association of all the right, title and interest of such member in and to all the property of the Association.

ARTICLE V.—REFERENDUM AND PETITION

Section 1.—Referendum and Petition

The right of referendum and petition shall be as set forth in the By-Laws.

ARTICLE VI.—OFFICERS

Section 1.—Officers

The officers of this Association shall be a President, a President-Elect, a Secretary-Treasurer, a Speaker of the House of Delegates, a Vice-Speaker of the House of Delegates and an Editor.

Section 2.—Powers and Duties of the President-Elect

The President-Elect shall act for the President in his absence or disability, and if the office of President becomes vacant the President-Elect shall then succeed to the Presidency to serve as President for such unexpired term and for the term of one year thereafter.

ARTICLE VII.—SCIENTIFIC ASSEMBLY

Section 1.—Objects

The Scientific Assembly of the California Medical Association is the convocation of its members for the presentation and discussion of subjects pertaining to the science and art of medicine.

Section 2.—Sections

The Scientific Assembly shall be divided into sections, each section representing that branch of medicine described in its title.

Section 3.—Creation of New Sections

New sections may be created or existing sections discontinued by the House of Delegates. The Scientific Assembly and its sections shall be conducted in accordance with the provisions of this Constitution and the By-Laws, and such other instructions by the House of Delegates or the Council as may not be in conflict therewith.

ARTICLE VIII.—MISCELLANEOUS

Section 1.—Incorporation

(a) To aid in carrying out the objects of the Association, the House of Delegates at any meeting of any regular or special session thereof may by a two-thirds vote of the members thereof present and acting, authorize, empower and direct the Council to cause the formation and organization of a non-profit corporation under the laws of the State of California, without capital stock, with such incorporators, name, purposes, objects, principal place of business, term, number of directors and directors to serve for the first year and until their successors are elected and have accepted office, and with such provisions regarding the voting power and property rights and interests of the members of the corporation and such further provisions in the Articles of Incorporation thereof, and with By-Laws and composed of such members representing this Association as the Council shall prescribe, fix and determine. The House of Delegates may at its option in connection with the granting and giving of such authority, power and direction to the Council, prescribe, fix and determine any or all of such matters pertaining to the said corporation, its Articles of Incorporation and any provision thereof, By-Laws and membership, and its action thereon shall bind the Council; and the House of Delegates at any meeting of any regular or special session thereof may by a two-thirds vote of the members thereof present and acting, authorize, empower and direct the Council to grant, assign, transfer, convey and deliver, or cause to be granted, assigned, transferred, conveyed and delivered to the said corporation upon the formation thereof without any consideration therefor, any property, real or personal, of the Association, which authorization, power and direction may be given prior or subsequent to the formation and organization of said corporation.

(b) To further aid in carrying out the objects of the Association, the House of Delegates at any meeting at any regular or special session thereof may, by a two-thirds vote of the membership thereof present and acting, authorize, empower and direct the Council to cause the formation and organization of one or more corporations under the laws of the State of California with such incorporators, name, purposes, county where the principal office for the transaction of business is to be located, first directors, the total number of shares, the aggregate par value, if any, of all shares, classes of shares, par value of any shares having par value, statement of the provisions, privileges and restrictions granted or imposed upon the respective classes of shares, or if the corporation be formed without capital stock the authorized number and qualifications of its voting and other rights of each class of members and the liability of each and all classes, to dues or assessments, and with such further provisions in the articles of incorporation thereof and with such by-laws as the Council shall prescribe, fix and determine; and the House of Delegates at any meeting of any regular or special session thereof may, by a vote of two-thirds of the members thereof present and acting, authorize, empower and direct the Council to grant, assign, transfer, convey or deliver or cause to be granted, assigned, transferred, conveyed or delivered to any of such corporations upon the formation thereof or to applicants for health and accident or other insurance in or from any of said corporations at or prior to the formation thereof without any consideration therefor, such funds and property, real or personal, of this Association as the House of Delegates shall from time to time authorize or ratify.

Section 2.—Seal

The Association shall have an Association seal consisting of a circle having on the circumference the words "California Medical Association, Eureka, 1856," with such further emblems, figures and words as the House of Delegates, on recommendation from the Council, shall prescribe.

The power to change the seal shall rest with the House of Delegates.

Section 3.—Amendments

Any member of the House of Delegates at any meeting of any session, other than a special session, thereof may present an amendment or amendments to any article or articles or any section or sections of any article or articles of this Constitution.

Such proposed amendment or amendments shall be in writing and shall be filed with the Secretary and shall thereafter be published at least twice in separate issues of the official journal of this Association prior to the next session of the House of Delegates.

At the said next session, other than a special session, of the House of Delegates, such proposed amendment or amendments shall be submitted to the House of Delegates, for consideration at any meeting of the House of Delegates during that session, and if two-thirds of the Delegates present and voting vote in favor thereof, the same shall be adopted.

Section 4.—Repeal of All Provisions of Existing Constitution

All articles and all sections and all parts of all articles of the existing Constitution are hereby repealed.

* * *

PROPOSED CONSTITUTIONAL AMENDMENTS

Printed herewith for the second time are two proposed amendments to the Constitution which was introduced in the 1950 House of Delegates. These amendments were offered separately from the proposed new Constitution introduced by Reference Committee No. 3.

Resolved, That Section 4 of Article IV of the constitution of this association, is hereby amended to read as follows:

Section 4, Special assessments, etc.

Funds may be raised by any of the following methods: (a) publications of the association; (b) voluntary contributions, (c) bequests, legacies, devises and gifts, (d) special assessments levied by the house and (e) in any other manner approved by the house. In the event that the house levies any special assessment or other assessment than the annual dues, it may, in the resolution levying the assessment, fix and determine the time within which such assessment may be paid and the class or classes of members upon whom it is levied.

The penalty for failure to pay such assessment shall be levied by the local society.

* * *

Resolved, That Section 9, Part B of Article III of the revised constitution of this association be amended as follows:

"Section 9, Composition.

"The council shall consists of:

"(a) Sixteen district councilors elected from the councilor districts specified in this constitution; and

"(b) Four councilors-at-large elected by the house of delegates, and

"(c) The president, president-elect, and speaker.

"In addition, the secretary-treasurer and editor, ex officio, but without the right to vote."

And that Section 10, Part B of Article III be amended as follows:

"Section 10, Councilor districts.

"(a) The state shall be divided into sixteen councilor districts according to economic and geographic lines. This division is to be effected by the council.

"(b) The state shall be reapportioned at least every five years or oftener if needed by the council.

"(c) The geographical areas of each councilor district and the number of the district shall be as stated in these by-laws."

PROPOSED AMENDMENT TO EXISTING CONSTITUTION

Be It Resolved, That Article VII, Section 1, of the Constitution of the California Medical Association be amended to read as follows:

ARTICLE VII.—COUNCIL AND EXECUTIVE COMMITTEE

Section 1.—The Council

The Council shall consist of the Councilors and ex officio: The President, the President-Elect, and the Speaker of the House of Delegates, each with all the rights of a Councilor.

Subject to the provisions herein, the Secretary-Treasurer and the Editor shall also be ex officio members of the Council, but without the right to vote.

The nine district Councilors shall be elected as follows:

In the interim between the first and second meetings of the House of Delegates at any annual session, the delegates from each Councilor district for which a councilorship is about to become vacant shall meet and elect a Councilor from that district. In the event that a majority of the delegates from any district are unable to agree upon a Councilor, the House of Delegates at its second meeting, shall elect a Councilor from that district. Those councilorships-at-large which are assigned to specified counties by reason of the size of their membership shall in similar manner be elected by the delegates from such specified counties. All nominees for councilorships must be members in good standing.

Unassigned Councilors-at-Large shall be elected by the House of Delegates. Not more than two Councilors-at-Large shall be elected from any one Councilor district; provided, however, that when any one Councilor district shall consist of a component county society having 1,500 or more members, two of the Councilors-at-Large shall be elected from its membership.

Any chapters, sections or paragraphs of the Constitution or By-Laws which are in conflict with this amendment are hereby repealed.

Proposed C.M.A. By-Laws

The following proposed by-laws represent essentially a set of by-laws prepared for submittal to the 1950 House of Delegates in the event the proposed C.M.A. Constitution then before that body were adopted. Inasmuch as the proposed Constitution was not adopted at that time, the original of these By-Laws was not presented to the House of Delegates for official action.

It should be borne in mind that until and unless a new Constitution is adopted by the House of Delegates, new By-Laws in codified form are meaningless. With a new Constitution, if voted, a new set of By-Laws becomes essential. Reference Committee No. 3 considered the original draft of these By-Laws at the time of the 1950 Annual Session. The draft printed here contains several changes from the original form, inserted to make this document completely in key with the proposed Constitution which is now lying on the table of the House of Delegates and which is printed above.

BY-LAWS

CHAPTER I.—COMPONENT SOCIETIES

Section 1.—Component Society Charters

The charter of each component society shall provide that all the provisions of the Constitution and By-Laws of this Association in force at the time of the issuance of such charter, together with all amendments to either thereof thereafter adopted, in so far as the same are applicable, shall be an integral part of the constitution and by-laws of the component society to which the charter is issued and that the terms and provisions thereof shall control and govern such component society, the officers and members thereof, and that the constitution and by-laws of the component society shall not be amended in any way to conflict or be inconsistent with the Constitution and By-Laws of this Association. Each charter shall be signed by the President and the Secretary-Treasurer of this Association.

Section 2.—Revocation of Component Society Charters

The charter of a component society may be suspended or revoked on any of the grounds specified in the Constitution only in accordance with the following procedure:

(a) *Complaint.* A written complaint, stating the grounds for action, shall be filed with the Secretary-Treasurer by the Chairman of the Council pursuant to resolution adopted by the Council by the affirmative vote of two-thirds of the members thereof.

(b) *Notice.* The Secretary-Treasurer of the Association shall, within thirty days of its receipt by him, send by registered mail to the secretary of the component society concerned, a true copy of such complaint.

(c) *Hearing.* Hearing on such complaint shall be held by the House of Delegates at a meeting of its first session occurring not sooner than three nor more than ten months after the date of its presentation to the Secretary-Treasurer of the Association.

(d) *Decision.* Suspension or revocation of the charter of a component society shall require a two-thirds affirmative vote of the members of the House of Delegates; provided, however, that the delegates of the component society concerned shall not vote, and their number shall not be counted in determining the necessary two-thirds majority.

Section 3.—Component Society Sections

(a) *Geographical or Specialty Sections.* A component society may authorize the formation and existence of branch geographical or specialty sections for scientific investigation and work only, and the members of such geographical sections or specialty sections must be members of such component society.

(b) *Members in Sections to Be Members of Respective Component Societies.* No geographical or specialty section shall be permitted to have any classes of members which classes in whole or in part include non-members of the component society of which any such geographical or specialty section is a branch or subdivision; provided that nothing in this section shall be construed as limiting the guest privileges of such non-members at meetings of such section.

CHAPTER II.—MEMBERSHIP

Section 1.—What Constitutes Membership

The name of a doctor of medicine on the official roster of this Association, after it has been properly reported by the secretary of his component society, and after the dues or other assessments due this Association shall have been paid by the component society for each such member according to the class of membership held by each component society member, shall be prima facie evidence of membership.

Section 2.—Component Society Rosters of Members; Reports

(a) *Roster.* The secretary of each component society shall keep a roster of its members, on which shall be shown the full name, address, school and date of graduation, date of license to practice in this state, class of membership, and such other information as the Secretary-Treasurer of the Association shall prescribe.

(b) *Reports.* The secretary of each component society shall furnish the Secretary-Treasurer of the Association before the first day of March of each year a list of names and addresses of all members in good standing on the first day of January of each year, shall notify in writing the Secretary-Treasurer monthly of all changes in membership of the component society, and shall submit to the Secretary-Treasurer on forms which the Association shall provide, notice of each application for membership in such component county society with the name, address and all other particulars regarding the applicant known to the secretary.

Section 3.—Qualifications of Active, Associate and Affiliate Members

(a) *Component Societies Sole Judges.* Each component society shall, subject to the minimum requirements for eligibility as hereinbelow provided, determine the qualifications for membership for Active, Associate or Affiliate membership therein, and shall be the sole judge of the qualifications of applicants for such membership.

(b) *Qualifications for Active Members.* To be eligible for election to Active membership in a component society, an applicant must hold the degree of Doctor of Medicine issued to him by an institution of learning accredited at the time of the issuance of such degree by the Board of Medical Examiners of the State of California. He must hold an unrevoked license to practice medicine and surgery issued to him by the Board of Medical Examiners of the State of California, which certificate must have been recorded in the office of the County Clerk in the county in which he practices. He must be of good moral and professional character and must not support, nor practice, nor claim to practice, any exclusive or sectarian system of medicine. He must subscribe to the Principles of Medical Ethics of the American Medical Association and to such as may from time to time be adopted by the California Medical Association, and shall recognize the authorized officers of his component society and of this Association as the proper authority to interpret any doubtful points of ethics.

(c) *Qualifications for Associate Members.* To be eligible for election to Associate membership in a component society, an applicant must possess all the qualifications necessary for active membership except that he shall not be engaged in the private practice of medicine and need not hold a license to practice medicine or surgery granted by the Board of Medical Examiners. For the purposes of this section, a Doctor of Medicine engaged in the private practice of medicine is any physician who receives his principal compensation for professional services on a fee basis.

(d) *Qualifications for Affiliate Members.* To be eligible for election to affiliate membership in a component society, an applicant must be, and must continue to be throughout the term of his membership, an intern, resident or house officer in an approved hospital within the county of the component society concerned.

Section 4.—Qualifications and Election of Other Classes of Membership

(a) *Retired Members.* The Council, on recommendation of any component society, may grant retired membership to those active members who have ceased the practice of medicine to the extent and for reasons satisfactory to such component society and the Council, and who shall have been active members of the Association for a total of ten years prior thereto. Retired membership shall endure as long as the retired member does not engage in full time practice of medicine; but in the event that a member classified as retired resumes active, full time practice of medicine such resumption shall automatically terminate retired membership and reestablish active membership. Upon resumption of full time practice by any retired member, the secretary of his component society shall transfer such member from the retired classification to the active classification, and notify the Secretary of this Association, who shall do likewise with respect to the membership rolls of this Association.

(b) *Honorary Members.* The House of Delegates on recommendation by the Council may elect as honorary members any persons distinguished for their services or attainments as doctors of medicine or in the field of public health, or for research or other scientific work contributing to medicine.

(c) *Life Members.* Those life members elected prior to the adoption of these By-Laws shall remain as such with all of the rights and privileges pertaining to such membership contained in the prior By-Laws, but no new life members shall be elected after the date of the annual session of the House of Delegates at which this section is adopted.

(d) *Special Memberships.* The House of Delegates may, from time to time, establish special and limited classes of membership in this Association for undergraduate medical students, or for interns, house officers, or residents wherever a component society makes no provision for this class of membership. The House of Delegates may also, from time to time, establish other special and limited classes of membership and fix the dues, qualifications, duration and privileges of such membership.

Section 5.—Rights and Privileges of Membership

(a) *Active Members.* Subject to the provisions of the Constitution and these By-Laws, all active members shall be equally privileged to vote, to hold office and to enjoy all other rights and privileges of the Association.

(b) *Associate Members.* Subject to the provisions of the Constitution and these By-Laws, associate members shall have all the rights and privileges of Active Members except the right to vote or to hold office.

(c) *Affiliate, Honorary and Retired Members.* Members in these classes shall be privileged to receive publications of the Association at such rates as the Council may from time to time determine; they shall not have the right to vote nor to hold office.

Section 6.—Membership Where No Component Society Exists

Any Doctor of Medicine residing in an area in which there is no component society may apply for membership in the component society most convenient to the area in which he practices medicine, and if otherwise qualified he may be elected to membership therein.

Section 7.—Membership Where Major Office and Residence Are In Different Component Society Areas

A Doctor of Medicine may apply for membership only to that component society whose charter covers the area in which his major office for professional practice is located; provided that a Doctor of Medicine who resides in one county and practices in another may apply for membership to the component society whose charter covers the area in which his residence is located, if both such component society and the component society of the area in which his major office is located approve.

Section 8.—Membership as Affected by Transfer of Location of Office

A member who changes his office from the county through whose component county society he holds membership in this Association, to another county in which there is a component society, is eligible to membership in the component society of his new location on the presentation of a transfer card, and satisfactory evidence that his dues have been paid in full in the component society in which he holds membership; provided, however, that no evidence which would disqualify him for membership exists.

He shall forfeit his membership in this Association one year after such change of location of practice unless after proper application he is elected to membership in the society of the county to which he has moved.

Section 9.—Transfer Cards

When a member in good standing in a component society moves to another county or other jurisdiction in this state he shall, on request, be given a transfer card, without cost. He must assume such financial obligations as shall be deemed proper by the component society to which he is transferred, and to which he makes application for membership by transfer.

Section 10.—Termination of Membership

(a) *By Expulsion from Component Societies.* Expulsion from any component society, after due proceedings in accordance with these By-Laws, upon becoming final terminates all the rights and privileges in this Association of the member so expelled.

(b) *By Failure to Pay Dues.* If the annual assessments of dues, payable to this Association or to the American Medical Association by any member of this Association, are not paid in full on or before April 1 of any year, such member shall automatically lose his membership in this Association as of April 1 of such year. The Council of this Association, in its discretion, upon payment of such unpaid dues, and any other assessments or dues accruing thereafter, may at any time reinstate such member.

(c) *By Revocation of Physician and Surgeon's Certificate.* Any member whose license to practice medicine and surgery in the State of California is revoked shall, upon receipt of written evidence of such revocation by the Secretary of this Association, thereupon cease to be a member of this Association.

(d) *Acts and Conduct Subjecting Member to Censure, Suspension or Expulsion by Component Society.* Any member of a component society who has been adjudged guilty of a criminal offense involving moral turpitude, or who has been duly adjudged guilty by his component society, in accordance with the procedural requirements of these By-Laws, of gross misconduct as a physician or a surgeon or of a violation of any of the provisions of the constitution or by-laws or principles of professional conduct of his society or of the Principles of Medical Ethics promulgated from time to time by this Association or by the American Medical Asso-

ciation, shall be subject to censure, suspension or expulsion from his society by such component society.

CHAPTER III.—DISCIPLINARY PROCEDURE

Section 1.—Disciplinary Procedure for Component Societies

The procedure to be followed by each component society with respect to the censure, suspension or expulsion of a member shall be:

(1) *Charges; Formal Requirements; a Formal Charge Must First Be Made.* Such charge must be in writing, signed by the accuser, and if made by a person other than a member of the society must be sworn to before an officer of the State of California authorized to administer oaths. Charges must state the acts or conduct complained of with reasonable particularity.

(2) *Charges; Filing; Secretary's Duties; Presentation to Board of Directors (or Grievance Committee).* Charges must be filed with the secretary of the accused member's component society. At the first regular or special meeting of the Board of Directors (or other governing body, whether called Council, Board of Trustees, Executive Committee, or any other name, all of which are herein included in the term "Board of Directors") of such component society held after charges are filed, the secretary must present said charges to the Board. The Board of Directors shall then or at any adjournment of said meeting, but not more than thirty days after the date of such regular or special meeting, consider the charges, and in its discretion determine whether or not further proceedings shall be conducted. If the Board determines that no further action shall be taken, the charges shall be dismissed.

If a component society has no board of directors and more than ten members, its members must, at a regular meeting of the society, elect a grievance committee of not less than five (5) active members in good standing; two members shall be designated by the society to serve for a period of one year, two members shall be designated to serve for a period of two years, and one member shall be designated to serve for a period of three years. At the expiration of the terms of office of the respective members of such committee, successors shall be elected in like manner to serve for a period of three years each. Such grievance committee shall exercise all the power and perform all the duties herein conferred upon boards of directors in the manner and within the times herein provided. If a society has less than eleven members, the entire society, exclusive of the accuser and accused, shall constitute the grievance committee. All references herein to board of directors shall be deemed to include such grievance committees, and component societies of ten members or less.

(3) *Service of Charge Upon Accused.* If the Board of Directors determines that further action, with respect to said charges, shall be taken, the Board must, within fifteen (15) days after such decision, cause a copy of the charges to be served upon the accused by personally delivering a copy thereof to him, or by depositing a copy thereof in the United States mail, registered and addressed to the accused either at his last known office or at his last known residence.

(4) *Time and Place for Hearing; Service of Notice Thereof.* The Board of Directors shall, at said meeting at which its decision to proceed is made, fix a time and place for a hearing of said charges. Written notice of the time and place set for the hearing shall be served upon the accused within fifteen (15) days by personal delivery or registered mail as aforesaid.

The time so set for a hearing shall be not less than fifteen (15) days after the accused has been served as aforesaid, with a copy of the charges and with the notice of the time and place set for the hearing; said hearing must be held within the county in which the accused holds his county society membership. The hearing before the Board of Directors must actually commence within six months from the date of the filing of written charges. Failure to comply with this requirement shall constitute an automatic dismissal of the charges.

(5) *Right of Accused to Answer; Time to Answer; Formal Requirements.* The accused may, not less than five (5) days before the time set for a hearing, answer said charges. The answer shall be in writing and the original and three copies shall be filed with the secretary of the society; provided, however, that the failure of the accused to answer shall not be deemed to be an admission of the truth of the charges or a waiver of the accused's right to a hearing with respect to said charges.

(6) *Rules Governing Hearing; Duties of Referee of Society; Advice as to Procedure Only.* The Board of Directors shall give ample opportunity both to the accuser and the accused to be heard in person, and to present all testimony, evidence, or proofs which the accuser or the accused may deem necessary, provided that the Board may reject all testimony, evidence, or proofs, which in the judgment of the Board are immaterial, irrelevant or unnecessarily repetitious.

Either the Council or the Executive Committee of the California Medical Association, whenever it shall come to the attention of either thereof that a disciplinary proceeding is pending before any component society, may of its own motion, and shall, upon the request of such component society or of the member or members thereof the subject of any such disciplinary proceeding, appoint a referee who may, but need not be, a member of the California Medical Association, and shall cause the Secretary of the California Medical Association to notify the secretary of such component society of such appointment. The referee so appointed shall preside at the hearing of said charges and shall make all decisions concerning the admission or rejection of testimony or other evidence and procedure. The referee shall not, however, have any voice nor participate in any manner in the determination by the Board of Directors of the disposition of the charges. During the hearing the referee shall perform all duties normally per-

formed by the presiding officer of the Board of Directors.

(7) *Record of Proceedings; Shorthand Reporter; Duty of Secretary to Preserve Board Records; Right of Accused to Copy.* The secretary shall preserve the original of said charges with a certificate of personal delivery or of mailing of a copy or copies thereof, as the case may be, the original notice of the time and place set for the hearing with a certificate of personal delivery or of mailing of a copy or copies thereof, as the case may be, and the original of the answer filed by any member accused if an answer be filed. At the hearing, the Board of Directors shall, at the expense of the society, employ a competent shorthand reporter to record and transcribe into typewriting testimony adduced on behalf of the accuser and the accused and all rulings made. The original charges with certificate of service thereof, the original notice of time and place for hearing with certificate of service thereof, the answer or answers, if any be filed, all documentary evidence introduced at the hearing, the typewritten transcript of the testimony and the written decision of the Board of Directors shall constitute the record of the entire proceedings. The Secretary shall, upon receipt from accused of a sum sufficient to defray the cost thereof, cause a copy or copies of such record to be transcribed, certified and furnished to the accused.

(8) *Decision of Board; When Must Be Written; Rules Governing Vote of Board.* The Board of Directors, after having given the accuser and the accused member full opportunity to be heard, shall conclude the hearing and shall render its decision in writing not more than thirty (30) days thereafter. Hearing shall include any oral arguments and the filing and consideration of any written briefs. The Board of Directors by a two-thirds affirmative vote of all the eligible members of the Board present and voting may exonerate or may censure, suspend or expel the accused member as the facts in its opinion may justify.

The decision of the Board of Directors may be expressed in resolution adopted by said vote. The decision may, but need not, contain an opinion and need only be signed by the secretary or the acting secretary of the component society.

The failure of at least two-thirds of all the members of the Board of Directors present and voting to agree upon the disposition of the charges shall act automatically as a dismissal of the same. No member of the Board of Directors not present at the said hearings for the entire time thereof shall be entitled to vote with respect to the disposition of the charges.

(9) *Suspension; Maximum Period; Status of Suspended Member.* If the Board of Directors shall determine to suspend an accused member, the term of such suspension shall be within the discretion of the Board, provided that in no case shall a member be suspended for a period greater than one year. A suspended member shall have no rights or privileges in the society, provided that at the expiration of the period of suspension such suspended member shall not be reinstated to membership in good standing until he applies for reinstatement and pays all dues accrued during said period of suspension.

(10) *(a) Board's Decision; Secretary to Send Copies.* Within ten (10) days after the decision of the Board of Directors, the secretary of the society shall transmit a copy of the decision to the Board, to the accused member or members and to the Secretary of this Association.

(b) Board's Decision Final; Subject to Appeal. The action of the Board of Directors of a component society shall be final, subject only to appeal to the Council of the California Medical Association in such cases as are provided in these By-Laws.

The decision of the Board of Directors shall not become effective until the expiration of ten days after time during which an appeal may be taken to the Council of this Association. Filing an appeal with the Secretary of this Association shall automatically stay the execution of the decision of the Board of Directors of the component society until written notice of the action of the Council of this Association with respect to appeal has been received by the secretary of the component society from which the appeal was taken.

(c) Technical Rules of Evidence Not to Govern Disciplinary Hearings. All hearings with respect to the disposition of charges against a member of a component society shall be held and conducted in such manner as to ascertain all the facts fairly to the accuser and accused, eliminating all formal or technical rules and requirements which ordinarily pertain to judicial proceedings.

(d) Members Agree That No Cause of Action Shall Accrue. Any person so charged, censured, suspended, or expelled shall have no claim or cause of action against this Association, a component society or any member, director, councilor or officer, thereof by reason of such charges, or the hearing or the consideration thereof or censure, suspension or expulsion therefor.

(e) Expelled Members; Right to Apply for Membership; When Accrues. Any person whose membership has been involuntarily terminated in a component society by reason of violation of these By-Laws may apply for membership after the expiration of one year from the date said membership was terminated, and such application shall be considered in the same manner as a new application for membership.

Section 2.—Procedure for Appeal to Council

A member of a component society censured, suspended or expelled by his county society may appeal from the action of such component society to the Council of this Association within the period of two months succeeding the date of such censure, suspension, or expulsion. Appeals shall be in writing and be filed within the said period of two months in the office of the Secretary of this Association. Said appeal shall be accompanied by a copy of the record of the entire proceedings before the component society duly certified by its secretary, provided the Chairman

of the Council may, in his discretion, extend the time of the appellant to file said record. Upon the filing of an appeal the secretary shall present it to the first subsequent meeting of the Executive Committee or the Council. Appeals shall be heard by the Council only after reasonable notice of not less than ten (10) days in writing of the time and place of the hearing of the appeal has been given to the appellant member and the president and secretary of the component society as provided in Section 4 hereof.

Section 3.—Rules Governing Appeals

In hearing appeals, the Council shall review all questions of procedure, and may, in its discretion, review the evidence contained in the record of the original proceedings held before the Board of Directors of the component society. The Council may make findings of fact contrary to, or in addition to, those made by said Board of Directors. Such findings may be based on the evidence adduced before said Board of Directors, either with or without the taking of evidence by the Council. The Council shall use any lawful means which in its judgment will best and most fairly present all the facts involved. The Council may, for the purpose of making such findings or for other purpose in the interest of justice, take additional evidence of or concerning facts material to the questions involved, or may, for such purpose, appoint a committee of its members or any notary public to act as referees or referee for the taking of such additional evidence.

Such referee or referees shall render a report in writing to the Council, which report shall contain a clear statement of the facts found by the referee or referees from the testimony or evidence adduced.

The Council may affirm, reverse or modify the decision of the Board of Directors or make such other disposition of the proceedings as it may deem proper.

In every case of an appeal the individual councilors and the Council, through a committee thereof, prior to any hearing being held upon the appeal, shall exert all proper efforts at conciliation and compromise.

This Association may be represented by its attorney to advise the Council upon procedural questions only.

The decision of the Council shall be final and bind the appellant member and the component society.

CHAPTER IV.—SESSIONS AND MEETINGS; SCIENTIFIC SECTIONS

Section 1.—Division of Scientific Work

(a) *Scientific Sections.* The scientific work of the Association shall be divided into fifteen scientific sections, as follows: General Medicine; General Surgery; Pediatrics; Eye, Ear, Nose and Throat; Urology; Anesthesiology; Obstetrics and Gynecology; Radiology; Industrial Medicine and Surgery; Pathology and Bacteriology; Dermatology and Syphilology; Neuropsychiatry; General Practice; Public Health; and Allergy.

(b) *Rules of Procedure of Scientific Sections.* Each scientific section shall adopt rules of procedure for its own better government and work. Its officers shall be responsible for the proper keeping of records of scientific and business meetings.

(c) *Officers of Sections.* The members of each section shall at the regular annual session of the Association elect a chairman and a secretary to serve for the term of one year.

(d) *Program.* Each of the sections shall present a scientific program at the annual session of the Association, and its officers shall be responsible for the proper preparation of the same, and for the proper cooperation with other scientific sections during the annual meeting.

Section 2.—Registration at Annual Sessions Necessary for Participation Therein

Each member in attendance at any session shall register, after his right to membership has been verified by reference to the records of this Association. No member shall take part in any of the proceedings of any session until he has complied with the provisions of this section of the By-Laws.

Section 3.—Addresses and Papers at Annual Session

(a) The program at Annual Sessions shall be divided between general meetings and section meetings as the Council shall deem appropriate.

(b) At the General Meetings shall be delivered the annual address of the President and, with the sanction of the Council, such other addresses and reports as may be deemed desirable.

(c) Excepting the President's address and such other addresses and reports as the Council may determine, no address or paper shall occupy more than twenty minutes in delivery.

(d) No member, except by unanimous consent, shall speak more than once in the discussion of any paper nor longer than five minutes at any one time. This subsection of the By-Laws shall be printed on all programs of general and section meetings.

Section 4.—Scientific Papers Property of Association

All papers read before this Association shall be its property.

Each paper, when it has been read, shall be deposited with the secretary of the section, by him to be promptly turned over to the Secretary of the Association.

Section 5.—Scientific Papers Not to Be Published Elsewhere

Authors of papers read before this Association shall not cause them to be published elsewhere except with the consent of the Committee on Publications.

Section 6.—Committee on Arrangements for Annual Session

(a) *Appointment and Duties.* The Chairman of the Council, subject to the approval of the Council, shall, at least six months before each annual session.

appoint a Committee on Arrangements for the sessions of the ensuing year, one member thereof being designated as the general chairman. This committee shall consist of five members.

The Secretary-Treasurer of the Association shall be ex officio a member of this committee.

This committee shall have charge of all local arrangements not otherwise provided for.

The terms of office of members of this committee shall expire when the succeeding committee on arrangements is appointed.

As the local Committee on Arrangements this committee shall provide suitable meeting places and shall have general charge of all local arrangements. The committee shall have power to appoint local advisory members and subcommittees to aid in its work.

(b) *Commercial Exhibits.* The Council shall decide what portion of the income from commercial exhibits or other convention services shall go to the local Committee on Arrangements. The location and rules for the commercial exhibits and other accessory annual session activities shall be subject to the approval of the Council.

(c) *Local Convention Expenses.* The Council shall decide what portion of the local expenses shall be borne by the Association.

(d) *Report on Committee on Arrangements.* The Committee on Arrangements shall make and file with the Secretary-Treasurer of the Association an itemized, detailed report of all its receipts and disbursements, and shall remit any moneys due the Association remaining in its possession, to the Secretary-Treasurer.

Section 7.—All Meetings of Same Session Shall Be in Same Locality

The general meetings of the Association, the meetings of the House of Delegates, and the meetings of the Scientific Assembly and its sections at any session shall be held in the State of California at the same locality and in buildings as convenient of access, one to the other, as may be possible.

CHAPTER V.—HOUSE OF DELEGATES

Section 1.—Secretaries of Component Societies To Furnish Lists of Delegates and Alternates: Election and Lists

Each component society shall elect a delegate and one alternate for such delegate in an aggregate number of delegates and alternates equal to the total number of delegates and alternates to which the component society is entitled. At least sixty days prior to the next scheduled session, the secretary of each component society shall forward to the Secretary-Treasurer of the Association, on forms provided by the Association, the names and addresses of each delegate and his alternate elected by such component society, and shall certify thereon the dates of election and expiration of terms of service of each delegate and his alternate.

Failure to conform to this provision shall constitute grounds for disqualification of the delegation in default for the scheduled session, at the discretion of the House of Delegates.

Section 2.—Representation

Commencing with the 1952 regular session of the House of Delegates, each component society shall be entitled to two delegates with one additional delegate for each one hundred active members, or fraction thereof, over and above its first one hundred active members, as of the first day of the preceding November.

Section 3.—Limitations on Seating of Delegates

Only duly elected delegates or their elected alternates may be seated at any session of the House of Delegates unless the Secretary of the Association has been given due notice of substitution at least fifteen (15) days in advance of the session.

Section 4.—Disqualification of Delegates or Alternates for Absence From a Session

Any delegate absent without good cause from two or more consecutive meetings of the House of Delegates, and who has failed to give fifteen days' notice to the Secretary of the Association of his inability to be present, shall thereupon be disqualified as a delegate and, in addition, ineligible for reelection as a delegate or alternate for three years immediately succeeding the expiration of his term; except that the Committee on Credentials may excuse absence on presentation of good cause therefor.

Section 5.—Notification of Delegates

The secretary of each component society promptly shall notify in writing each delegate and alternate immediately after his election to such office, and shall expressly direct each delegate's and alternate's attention to the provisions of Section 4 above.

Section 6.—Qualifications of Delegates and Alternates

At least three (3) years' active membership in good standing in the component society immediately preceding election shall be required for election as delegate or alternate.

Section 7.—Sessions and Meetings

(a) In each year there shall be two regular sessions of the House of Delegates; the time and place of such sessions to be determined by the Council as far as possible in advance and notice thereof published in the Journal of the Association. One of these sessions shall be held in the first six months of each calendar year and is designated the Annual Session; the other shall be held in the last six months of each calendar year and is designated the Interim Session.

(b) In addition to regular sessions, special meetings of the House of Delegates may be called at any regular or special meeting of the Council, by a two-thirds vote of all the members of the Council, or by written call stating the object of the meeting, filed with the Secretary in the office of the Association and signed by one-half or more of the members of the House of Delegates. Upon the filing of such call

with the Secretary, the Council shall within thirty (30) days thereafter fix the time and place for the holding of such special meeting and cause written notice thereof stating the object of the meeting to be sent by United States mail, postage fully prepaid, to each member of the House of Delegates, addressed to him at his office or place of residence, as shown by the records of the Secretary's office, at least fifteen (15) days prior to the date of the meeting.

(c) Resolutions and other new business may be introduced at either regular session, but shall not be acted upon until the next regular session; provided, however, that any resolution designated as an emergency measure may be acted upon at the session in which it is introduced, but shall require a two-thirds affirmative vote for adoption.

Section 8.—House of Delegates Committees

Prior to or at the commencement of each annual session the Speaker of the House shall appoint from the members thereof the following committees:

1. A Committee on Credentials,
2. A Reference Committee on Finance, to review the reports of the Secretary-Treasurer and Executive Secretary and to study and make recommendations to the House of Delegates on the budget submitted by the Council and the amount of dues for the ensuing year.
3. A Reference Committee on the reports of Officers, Council, Standing and Special Committees, and
4. Two or more Reference Committees on resolutions, amendments to the Constitution and By-Laws, and new and miscellaneous business (the Speaker may allocate amongst these committees all business properly referable to them).

Section 9.—Membership of Credentials and Reference Committee

Each of the aforesaid committees shall consist of three members, the chairman of each to be designated by the Speaker.

The Speaker, the House concurring, shall refer said reports, resolutions, and business to the respective Reference Committees, but may allocate among them any of said reports, resolutions or portions thereof, and other business, to avoid duplication and to expedite the business of the House of Delegates.

Each Reference Committee shall prepare a written report dealing with and making recommendations on all matters submitted to it. In those instances in which resolutions or other matters remain before a Reference Committee between meetings of the House of Delegates, copies of such resolutions or other matters and the recommendations of the committee thereon shall be mailed or delivered by the Secretary to each elected delegate and alternate at least thirty days (or if less than thirty days intervenes between meetings, as early as possible) prior to the meeting of the House of Delegates at which such resolutions or other matters and recommendations concerning them are to be considered. The report of each committee may be acted upon as a whole or section by section, as the House may determine.

Section 10.—Duties of Credentials Committee

The Secretary of the Association shall supply the Committee on Credentials with the necessary information concerning the membership of the House of Delegates.

The Secretary shall give this committee a list of component societies, showing the total membership as of November 1 of the preceding year. This committee shall ask each delegate and alternate to present his written credentials, but shall accept the official written list submitted by the secretary of any component society; provided that such written list be sent to the Secretary of the Association at least fifteen days before the beginning of the annual session.

The Committee shall make a written report to the House of Delegates of the delegates and alternates entitled to membership therein.

Section 11.—Special Committees of House of Delegates

The Speaker, the House of Delegates concurring, shall have the right to appoint special committees of the House for special work. All committees of the House of Delegates shall present their reports to the House of Delegates in writing.

CHAPTER VI.—COUNCIL

Section 1.—Council: Organization

At the first meeting of the Council held after the adjournment of the last meeting of the House of Delegates at the annual session of the Association, the Council shall organize by the election of one of the Councilors as Chairman of the Council, who shall serve as such up to the first Council meeting held after the adjournment of the last meeting of the House of Delegates of the next succeeding annual session of the Association; and a Vice-Chairman who shall hold office for the same term, and who, in the absence of the Chairman, shall perform the duties of the Chairman. The Secretary-Treasurer of the Association shall serve as the Secretary of the Council.

Section 2.—Registry

The Secretary-Treasurer, in writing, shall request each Councilor to register his address where he desires all notices to be sent to him by mail or telegram.

Section 3.—Order of Business

At meetings of the Council, business shall be transacted as the Council may determine from time to time by resolution.

The Council shall provide and fix the order of business of the House of Delegates at each session, provided that the House of Delegates may change the order of business by a majority vote.

Section 4.—Executive Committee of Council

The Executive Committee shall consist of the President, President-Elect, Chairman of the Council,

Chairman of the Auditing Committee, and one other member of the Council (elected by the Council at its organization meeting each year). The Secretary-Treasurer and Editor shall be members ex officio, but without the right to vote. The organization, duties and powers of the Executive Committee shall be as provided in the By-Laws.

Section 5.—Auditing Committee of Council

The Chairman of the Council, subject to its approval, shall appoint an auditing committee of three members, designating one of the members as its chairman.

The Auditing Committee shall inspect all bills and claims against the Association, and no bill or claim shall be paid except upon voucher or draft having the approval of at least two of the three members of the Auditing Committee; provided, however, that any bill or claim may be paid without the approval of any member of the Auditing Committee by a majority vote or written approval of a majority of all the members of the Executive Committee.

Section 6.—Duties of District Councilors

Each District Councilor shall be organizer, peacemaker and censor for his district. He shall visit each county in his district at least once a year for the purpose of organizing component societies where none exist, of inquiring into the condition of the profession, and of maintaining touch with the activities of the component societies of his district. He shall in writing make an annual report of this work and of the condition of the profession of each county in his district to the Council, which shall take such action thereon as it may deem best.

Section 7.—Expenses of Councilors and Officers

Councilors and officers shall be allowed railroad fare or mileage not exceeding 5 cents a mile, plus an allowance for maintenance expense of ten dollars a day, while absent from their places of residence; (a) in attending Association, district or county society meetings; (b) meetings of committees of the Association; (c) authorized councilor or officer visits to county societies; (d) and otherwise when on official business, authorized or approved by the Council.

Section 8.—Mail Ballot

The Chairman of the Council, at any time, may direct the Secretary to submit any urgent matter or question to the members of the Council by mail ballot, the question or proposition being prepared through conference of the Secretary with Chairman of the Council and the Chairman of the Executive Committee; and the vote of two-thirds of the members upon such question by mail or telegraph shall be binding upon the Council.

Section 9.—Offices

The Council shall provide and secure such offices for the Association as may be required to conduct its activities and business properly.

Section 10. — Employment of Secretary-Treasurer, Assistant Secretaries, Editor and Associate Editors

The Council shall employ a Secretary-Treasurer and an Editor, and, in its discretion, one or more Assistant Secretaries or Associate Editors. The terms of their employment shall be such as are satisfactory to the Council, provided, however, that no contract of employment shall, by its terms, exceed a period of three (3) years from the date of the organization meeting at which such contract is authorized.

Section 11.—Qualifications of Secretary-Treasurer and Editor

No person shall be eligible to the office of Secretary-Treasurer or Editor or Associate Editor who does not hold the degree of Doctor of Medicine, but membership in this Association shall not be a necessary qualification for the offices of Secretary-Treasurer, Editor or Associate Editor.

Section 12.—Executive or Field Secretaries or Representatives

The Council may employ one or more Executive or Field Secretaries or representatives, who need not be physicians or members of the Association. The duties of such a representative or representatives, if appointed, shall be determined by the Council by resolution.

Section 13.—Legal Counsel

The Council at its annual organization meeting shall appoint one or more legal advisers, giving each such title as may be deemed proper. It shall fix the amount of retainer and other fees.

The Council shall have the right to request the attendance of Counsel of the Association at any meetings at which it might desire his presence and advice, and at such meetings he shall call attention to matters in which the legal aspects may be of importance, and shall give such other opinions in special matters as may be requested of him by the Council.

The General Counsel shall present in writing as promptly as the same may be properly prepared, such legal opinions as may be requested by the House of Delegates, the Council or the Executive Committee.

CHAPTER VII.—COMMITTEES

Section 1.—Standing Committees

The standing committees of this Association shall be as follows:

(a) Scientific Work
(b) Public Policy and Legislation
(c) Medical Defense
(d) Medical Education and Medical Institutions
(e) Hospitals, Dispensaries, and Clinics
(f) Medical Economics
(g) Associated Societies and Technical Groups
(h) History and Obituaries
(i) Industrial Practice
(j) Postgraduate Activities

(k) Public Relations
(l) Physicians' Benevolence Committee
(m) The Reference Committees of the House of Delegates

until final adjournment of each regular session.

Section 2.—Standing Committees; How Elected; Term of Office

Unless otherwise provided in these By-Laws, each of the standing committees (except House of Delegates Reference Committees) shall consist of one member of the Council and two other members. Members of standing committees (other than House of Delegates Reference Committees) shall serve for a term of three (3) years. One member of each of these committees shall be nominated annually by the Council and if approved by the House of Delegates shall be deemed elected.

Section 3.—Report Procedure for All Committees

Regular standing and special committees of the Association may make investigations and surveys on authorization of the Council or House of Delegates, but all recommendations and reports of all committees (unless expressly otherwise provided in the Constitution or By-Laws) must be submitted only to the Council or House of Delegates. Other than as herein stated no committee is authorized to act for or represent this Association.

Section 4.—Advisory Groups to Standing Committees

To aid it in its work, each committee, if it so desires, shall have the power to appoint an Advisory Group to its committee, consisting of from two to ten members. Such advisory members, if present at a regular committee meeting, shall not have the right to vote.

Section 5.—Officers of Standing Committees

The chairman of each of these committees, except the Committee on Public Relations, shall be nominated and elected annually by the Council, by and with the approval of the House of Delegates. The chairman of the Committee on Public Relations shall be elected by said committee, subject to the approval and confirmation of the Council, and in the event of a failure to elect within sixty days after adjournment of the annual session the Council shall elect said chairman. Each of these committees shall, each year, except as otherwise provided in these By-Laws, at its first meeting or official consultation, during or following the annual session elect its own secretary.

Section 6.—Secretary-Treasurer's Notice to Standing Committees

The Secretary-Treasurer of the Association, within one month after the annual session, shall write the Committee Chairman of the preceding year, to call a meeting for organization and consideration of any business. The Secretary shall also send a copy of this letter to each of the other members of the committee.

Section 7.—Annual Reports of Standing Committees

At least sixty days prior to the annual session, each of these committees shall submit a written report to the Council on its work during the preceding year, the same to be printed in the Pre-Convention Bulletin as otherwise provided.

Section 8.—Committee on Scientific Work

The Committee on Scientific Work shall consist of the Secretary-Treasurer, the secretaries of the sections on general surgery and general medicine and three other members to be elected by the Council, each of these three members to serve three years, one member being elected each year. The Secretary-Treasurer shall be chairman.

This committee shall determine the character and scope of the scientific proceedings of the Association for each session, and shall invite the guest speakers, subject to the instructions of the Council.

At least thirty days previous to each annual session it shall prepare and issue a program announcing the order in which papers and discussions shall be presented.

This committee shall have one joint session with the section secretaries, at a time and place to be designated by the chairman of the committee, at least forty-five days prior to the annual session, to coordinate more efficiently the various activities of the Association at its annual session. The chairman of the local committee on arrangements shall be invited to attend this meeting.

Section 9.—Committee on Public Policy and Legislation

The Committee on Public Policy and Legislation shall consist of three elected members, and ex officio, the President and President-Elect.

The chairman of the committee, and in his absence, the President, shall act as chairman at the joint meetings of this central state group and of auxiliary county groups.

(a) *Functions of the Committee.* The Committee on Public Policy and Legislation and its auxiliary county groups shall represent the Association in securing and enforcing legislation in the interest of public health and of scientific medicine, subject, however, to the approval of the Council.

(b) *County Auxiliary Committees on Public Policy and Legislation.* Each component society shall appoint or elect three of its members as members of its auxiliary Committee on Public Policy and Legislation, designating one member as chairman; and the component society secretary shall send promptly the names and addresses to the Secretary of this Association.

(c) *Work of Auxiliary County Committees.* The Committee on Public Policy and Legislation of this Association, with the sanction of the Council, shall formulate the duties of these county auxiliary committees and supply each member with a copy of its suggestions and instructions. The auxiliary committeemen shall be accountable to their component societies and to the Council of this Association for

prompt and continued cooperation with the Committee on Public Policy and Legislation of this Association.

Section 10.—Committee on Medical Defense

The Committee on Medical Defense, subject to the approval of the Council, shall prepare plans and establish rules for the protection of the legal rights of members of this Association against whom suits for alleged negligence have been threatened or brought.

It may assist in the defense of any member sued for alleged negligence if the member was in good standing and had complied with the rules of the Council when the service on account of which suit was threatened or brought was rendered—provided that the committee determines that the position of the member merits such action.

Section 11.—Committee on Medical Education and Medical Institutions

The Committee on Medical Education and Medical Institutions shall serve in this State for the Council on Medical Education of the American Medical Association.

It shall keep in touch with the problems pertaining to medical education and to medical and other institutions of training for medicine and the healing art.

Section 12.—Committee on Hospitals, Dispensaries and Clinics

The Committee on Hospitals, Dispensaries and Clinics shall serve in this State for the Council on Hospitals of the American Medical Association.

It shall keep in touch with the problems arising in the fields of work of all types of hospitals, dispensaries and clinics giving special attention to those activities that are, or tend to become, a menace to the best interests of scientific medicine and of the profession and its members.

Section 13.—Committee on Medical Economics

The Committee on Medical Economics shall investigate matters affecting the economic status of doctors of medicine.

Section 14.—Committee on Associated Societies and Technical Groups

The Committee on Associated Societies and Technical Groups, subject to the instructions of the Council, shall endeavor to create proper liaisons between this Association and other state and national medical organizations, as well as with the organizations of related professions, such as dentistry, pharmacy and nursing. It shall also endeavor to bring about a proper understanding with non-medical organizations or groups of technicians and others whose work has a bearing on or is related to the practice of medicine.

Section 15.—Committee on History and Obituaries

The Committee on History and Obituaries shall compile and prepare for the archives and for the publications of the society suitable articles on the history of the Association and statements concerning deceased members. The Editor and the Secretary shall be members of this committee, ex officio.

Section 16.—Committee on Industrial Practice

The Committee on Industrial Practice shall keep in touch with matters and problems peculiarly connected with industrial practice.

Section 17.—Committee on Postgraduate Activities

The Committee on Postgraduate Activities, of which the Secretary-Treasurer shall be an ex officio member, shall use its best efforts to promote the postgraduate and clinical courses and instruction among the component county units of the Association.

The supervision of such postgraduate and clinical courses and instruction shall be carried on through the central offices of the Association, the Council being empowered to defray travel expenses of guest speakers and other costs incident to such work to such amount as in the judgment of the Council may be deemed proper. In the development of such postgraduate and clinical courses and instruction, it is stipulated that the component societies, through their constituted representatives, shall cooperate with the Standing Committee on Postgraduate Activities and shall also arrange to bear a proper proportion of the expense thereof of such amount as may be mutually agreed upon.

Section 18.—Committee on Public Relations

The Committee on Public Relations shall consist of the chairmen of the following committees: Public Policy and Legislation, Medical Economics, Associated Societies and Technical Groups, the President, President-Elect, and two additional members appointed by the Council.

The committee shall be responsible to the Council and the House of Delegates for all of its activities.

The Council or the Executive Committee may instruct the Committee on Public Relations, and outline to it certain policies and duties which shall be executed through the Director of Public Relations. In the event of any disagreement between the committee and the Council or the Executive Committee as to any activity or policy, the decision of the Council, after full discussion and hearing, shall be final.

The committee shall make recommendations to the Council for approval as to the time, the place, the number of meetings and the budget of the Department of Public Relations, provided that the Secretary shall call the first meeting of the committee within thirty (30) days following the annual meeting of the Association.

The Director of Public Relations shall be appointed by the Council (after consultation with the Committee on Public Relations) annually at the organization meeting of the Council. He shall serve

at the pleasure of the Council and the Committee. He shall act under the supervision and instruction of the chairman of the committee in such matters as shall be approved and sanctioned by the committee, and be responsible to the committee.

The Council shall arrange with the general counsel to give the committee all legal aid.

The committee shall annually at its first meeting elect its own chairman, subject to the approval and confirmation of the Council. The Secretary of the Association shall be ex officio secretary. A majority of the committee shall constitute a quorum.

Section 19.—Physicians' Benevolence Committee

The Physicians' Benevolence Committee shall consist of three (3) members whose appointments and terms of office shall be as provided in Section 2 of this Chapter.

The committee shall be responsible to the Council and the House of Delegates for all of its activities.

The committee shall administer those funds, of this Association, hereinafter designated as comprising the Physicians' Benevolence Fund.

The committee's administration of said fund shall be subject to the provisions of this section.

(a) The funds which may from time to time be allocated to it, from the general funds of the Association, by the Council, are the funds for this committee.

(b) All bequests, voluntary contributions, and donations, from any source whatever, that may be received by this Association for the express and implied purpose of aiding needy members, and

(c) All other funds from whatever source derived, except Accounts Receivable, payments for indebtedness to this Association, Dues and Assessments received by this Association, which the payer, donor, or other person transferring the funds, expresses the intent that such funds shall be for aid to needy members.

Funds contained in the Physicians' Benevolence Fund may from time to time be disbursed by the Physicians' Benevolence Committee.

Section 20.—Publication of Committee Reports in Pre-Convention Bulletin

Reports of the standing and special committees, as approved, deleted or modified by the Council, shall be published in a pre-convention bulletin or in the official journal of the month preceding the date of the annual session of the Association. Such reports must be in the hands of the Secretary-Treasurer at least sixty days in advance of the annual session.

If a committee fails to send in its report in proper time, the name of the committee and the names of its members shall be printed as above indicated, with a statement that the committee failed to send in its report, and the Council, subject to the approval of the House of Delegates, shall be empowered under such conditions to make such changes in the personnel of the committee as in its judgment may be deemed best.

Section 21.—Additional Committees

The House of Delegates and the Council are authorized and empowered to appoint special committees, with special instructions as to work to be undertaken, whenever it is deemed impractical or improper for the contemplated duties to be performed by a standing committee.

CHAPTER VIII.—ELECTION OF OFFICERS: TERMS

Section 1.—President-Elect—When and How Elected: Term of Office

The House of Delegates at each Annual Session thereof shall elect the President-Elect to serve until the adjournment of the final meeting of the House of Delegates at its next Annual Session. At the conclusion of the final meeting of the House of Delegates at its next Annual Session, such President-Elect shall assume the office of President, and serve as such for the term of one year thereafter, or until his successor assumes office.

Section 2.—Speaker and Vice-Speaker of House—When Elected: Term of Office

The House of Delegates shall at the Annual Session thereof elect a Speaker of the House of Delegates and a Vice-Speaker of the House of Delegates, each to serve for the term of one year, or until their successors are elected and assume office. The Speaker and Vice-Speaker shall be members of the House of Delegates at the time of their election.

Section 3.—Delegates to the American Medical Association

The House of Delegates shall elect delegates and alternates to the House of Delegates of the American Medical Association in accordance with the Constitution and By-Laws of that organization.

Section 4.—Officers Elected by House of Delegates

Those officers who under the Constitution are elected by the House of Delegates shall be elected at the second meeting of the House at the Annual Session thereof.

Section 5.—Election of Ballot: Number of Votes Necessary

(a) All elections of officers shall be by ballot; provided, that by a two-thirds vote of the members present and acting election by ballot may be waived.

(b) A majority of the votes cast shall be necessary to elect any officer.

(c) In case no nominee receives a majority of the votes on the first ballot the nominee receiving the lowest number of votes shall be dropped and a new ballot taken. This procedure shall be continued until one of the nominees receives a majority of all the votes cast, when he shall be declared elected.

Section 6.—Election of District Councilors

At least twenty-four hours prior to the second meeting at each annual session of the House of

Delegates the delegates from those districts in which Councilor vacancies are about to occur shall separately meet, and in each district the delegates shall elect a chairman and a secretary. At such caucus the delegates in each district shall by nomination, secret ballot and majority vote of the delegates present elect a district Councilor from such district to serve for the ensuing term. The chairman of the district delegation shall then report at the second meeting of the House of Delegates the results of the election, and when such report is made the member elected shall thereupon assume office as a district Councilor. The time and place of the caucus of each district delegation shall, in the absence of unanimous written consent by the delegates from the district fixing time and place, be fixed by the Speaker and announced at the first meeting of the House of Delegates at each annual session. In the event that at any district caucus no person receives a majority vote for district Councilor after repeated ballots, the chairman of the caucus shall report such fact at the second meeting of the House of Delegates and shall also report the names of all nominees submitted to the caucus, whereupon the House of Delegates shall proceed to elect from such nominees the district Councilor from such district.

Section 7.—When Terms of Office of Speaker, Vice-Speaker and Councilors Begin

The terms of office of the Speaker and Vice-Speaker of the House of Delegates (which terms are herein generally stated to be one year) and the terms of office of the Councilors (which terms are herein generally stated to be three years) shall commence immediately upon the adjournment of the last meeting of the House of Delegates of the Annual Session of the Association at which such officers are elected, and shall continue up to the adjournment of the last meeting of the House of Delegates at the Annual Session of the Association of the year in which the term of office ends.

Section 8.—Officers to Hold Office Until Successors Are Elected and Assume Office

Every officer shall hold office until his successor has been elected and has assumed office either in person or by announcement.

Section 9.—Vacancies in Office

(a) In case of vacancy in the offices of both President and President-Elect, the chairman of the Council shall act as the Acting President until a President is elected at the next Annual Session of the House of Delegates.

(b) The Council by appointment shall fill any vacancy in office not otherwise provided for in the Constitution or these By-Laws, which occurs during the interval between the Annual Sessions of the House of Delegates. Such appointee shall serve until the next Annual Session or until his successor has been elected and has assumed office.

CHAPTER IX.—POWERS AND DUTIES OF OFFICERS

Section 1.—Duties of the President

The President shall preside at all meetings of the Association.

He shall appoint all committees not otherwise provided for; he shall deliver an address at the regular session at such time as may be arranged, and shall perform such other duties as custom and parliamentary usage may require, or as the House of Delegates or the Council may direct.

He shall be the real head of the profession of the state during his term of office, and, as far as practicable, shall visit, by appointment, the various sections of the state and assist the Councilors in building up the component societies, and in making their work more practical and useful. The Council shall decide what portion of the expenses incurred on his official visits shall be paid by the Association.

He shall be ex officio a member of all committees of the Association.

Section 2.—Duties of the Secretary-Treasurer, Executive Secretary and Field Representatives

The duties of the Executive Secretary and Field Representatives may be such as are delegated to them by the Council, and may be any and all duties as are specified under the various provisions of this section.

(a) *Minutes.* The Secretary-Treasurer (who may also be referred to as Secretary or Treasurer) shall attend the general meetings of the Association, the meetings of the House of Delegates, of the Council and of the Executive Committee, and shall keep minutes of their respective proceedings in separate record books.

(b) *Custodian of Records.* He shall be custodian of all record books and papers belonging to the Association. He shall have the custody of the seal of the Association.

(c) *Contracts.* He shall countersign all contracts, agreements, conveyances, transfers or other instruments to which the Association is a party, the execution of which has been authorized by the House of Delegates or Council.

(d) *Checks.* The Secretary-Treasurer shall sign and issue checks or drafts only upon vouchers approved and signed by at least two of the members of the Auditing Committee or as otherwise provided.

(e) *Advertisements in Association Publications.* The Secretary-Treasurer, subject to instructions by the Council, shall carefully examine, approve, modify or reject all material for advertising in any of the publications of the Association, and shall, in all cases of doubt, refer such proposed advertisements to the Executive Committee or the Council for decision. He shall, with the approval of the Council or the Executive Committee, execute, for the Association, written contracts relating to advertising in the form approved by the Council, subject to instructions by the Council.

(f) *Registrar at Annual Sessions.* He shall provide for the registration of the members and delegates at the Annual Session.

(g) *Index Register of California Medical Licentiates.* He shall, with the cooperation of the secretaries of the component societies, keep a card-index register of all the licensed practitioners of the state by counties, noting the status of each in relation to his component society; and shall transmit a copy of this list to the American Medical Association, transmitting to its secretary each month a report containing the names of new members and the names of those dropped from the membership roster during the preceding month.

(h) *Register of Component Societies, Their Members and Officers.* He shall keep a register of all component societies, their respective officers, and of all members of the Association, with their addresses, and shall compile an annual directory of the same. He shall print in the January or February issue of the official journal the number of active members of each component society as of November 1st of the preceding year.

(i) *Notices.* He shall give all notices required by the Constitution and By-Laws of this Association, or by order of the Council, or of the Executive Committee, or by law.

(j) *Correspondence and Notifications to Committees.* He shall conduct the official correspondence, promptly notifying members of meetings, officers of their election, and committees of their appointment and duties, as outlined in the motions creating such committees. Such notifications shall be made in writing.

(k) *Assistants.* He shall employ and dispense with such assistants as may be ordered by the Council. The Council by resolution may outline the scope and duties of special employees acting under the Secretary-Treasurer.

(l) *Annual and Other Report Forms.* He shall supply all component societies with the necessary forms for making their annual and other reports to this Association.

(m) *Salary.* The amount of his salary shall be fixed by the Council.

(n) *Bond.* He shall give bond in such sum as may be fixed by the Council. The Association shall pay the premium on said bond.

(o) *Duties as Treasurer.* He shall as Treasurer demand and receive all funds due the Association, together with bequests and donations, and shall promptly deposit the same in one of the depositaries thereof; and shall keep a proper and accurate record thereof, as well as of all funds disbursed by the Association.

(p) *Audits and Reports.* He shall subject his accounts to such examination or audit as the House of Delegates or Council may order.

He shall annually render an account of his work, and of the state of the funds in his hands, and make a report on the same and of his work as Secretary-Treasurer to the House of Delegates. He shall in writing also make such other reports as the House of Delegates or Council may request.

(q) *Disbursement of Association Moneys.* He shall pay out the money of the Association only upon a check or draft as otherwise provided herein.

(r) *Other Duties.* He shall perform such other duties as the Council or Executive Committee may direct.

Section 3.—Duties and Powers of the Chairman of the Council

The Chairman of the Council shall preside at all meetings of the Council. He shall sign all contracts and agreements, conveyances, transfers or other instruments (other than advertising contracts) to which the Association is a party, the execution of which has been authorized by the House of Delegates or the Council. He shall sign all checks or drafts for the disbursements of funds of the Association. He shall, on behalf of the Council, deliver its annual report to the House of Delegates. He shall perform such other duties as may be imposed upon him by the Constitution or these By-Laws.

Section 4.—Duties of Vice-Chairman of the Council

The Vice-Chairman of the Council, in the absence or inability of the Chairman to act, shall be vested with all the powers and shall perform all the duties of the Chairman.

Section 5.—Duties and Powers of the Speaker

The Speaker of the House of Delegates shall preside at its meetings and shall perform such other duties as parliamentary usage may require. He shall appoint all committees authorized by the House of Delegates, unless otherwise provided.

Section 6.—Duties of Vice-Speaker

The Vice-Speaker shall act as Speaker in the absence of or at the request of the Speaker.

Section 7.—Duties of the Editor

The Editor and Associate Editor or Editors shall compile, edit and have charge of the official journal of the Association and such other publications as the Council or the House of Delegates may instruct him to undertake.

CHAPTER X.—FUNDS, PROPERTY, BUDGET AND ASSESSMENTS

Section 1.—Preparation of Budget

The Auditing Committee, prior to December 1 of any year, shall submit to the Executive Committee, for consideration at its December meeting, a budget under which the Association shall work in the fiscal year following the next annual session.

The Executive Committee, after consideration of the Auditing Committee's proposed budget, shall submit the same to the Council, prior to the spring meeting of the Council, with a report of its own containing suggested changes, additions or comments.

The Council in turn shall consider the two proposed budgets so submitted, and shall then make a

final draft of a proposed budget for the Association, to be submitted to the House of Delegates at the next annual session.

Section 2.—Dues

(a) The Council shall recommend to the House of Delegates the amount of the annual dues or assessments of Active, Associate, Affiliate and Retired members of the Association.

(b) Honorary Members shall not be required to pay any dues or assessments, annual or special.

Section 3.—Reduction of Dues

The House of Delegates may reduce annual dues of active members, as follows:

(a) Those active members who have been in the practice of medicine for less than one year (on the first day of the calendar year for which such dues are payable), may be reduced to one-fourth regular dues;

(b) Those active members who have been in the practice of medicine for less than two years (on the first day of the calendar year for which such dues are payable), may be reduced to one-half regular dues;

(c) Those active members who have been in the practice of medicine for less than three years (on the first day of the calendar year for which such dues are payable), may be reduced to three-fourths regular dues.

Section 4.—Annual Dues and Assessments

(a) *When Payable.* The annual assessment or dues shall be payable on or before January 1 of the year for which they are levied.

(b) *County Secretaries to Collect Dues.* The secretary of each component society shall cause to be collected and shall forward to the office of the Association the dues and assessments for its members.

(c) *Record of Fact of Payment of Dues.* The record of payment of dues and assessments on file in the office of the Association shall be final as to the fact of payment by a member and as to his right to participate in the business and proceedings of the Association and of the House of Delegates.

(d) *Dues of New Members; Amount Payable.* All doctors of medicine becoming active members of this Association shall pay to this Association the annual dues payable by active members for the period for which membership is obtained, except that the Council may, in its discretion, with respect to all new members who acquire membership after July 1 in each year, require payment of only one-half of the annual dues for said year. Such payment shall entitle such new member to all the rights of active membership in this Association until the end of the current calendar year.

Section 5.—Bequests, Legacies, Donations and Gifts

The Association may receive through the Council or for the benefit of the Association through any corporation which may be formed pursuant to the Constitution, such bequests, legacies, donations and gifts as the Council shall deem it proper and suitable to accept.

Section 6.—Funds and Moneys: Deposit and Withdrawal

All funds and moneys of the Association by whomsoever received shall be promptly forwarded to the Secretary-Treasurer of the Association and deposited by him in a depositary of the Association.

No demands or claims against the Association shall be paid and no funds or moneys of the Association withdrawn from any depositary thereof except upon written voucher approved by the signature of at least two members of the Auditing Committee or by a majority vote or written approval of a majority of all the members of the Executive Committee on check or draft signed by any two of the following: The Chairman of the Council; the Vice-Chairman of the Council (only in the absence of the Chairman); Chairman of the Auditing Committee; the Secretary-Treasurer.

Section 7.—Revolving Fund

A revolving fund in such amount as may from time to time be fixed by the Council shall be deposited with the Secretary-Treasurer from which fund immediate cash demands may be paid.

Section 8.—Surplus Funds From Journal and Publications

On authorization therefor by the House of Delegates or the Council, any surplus funds arising from the operation of the official journal or other publications of the Association may be applied and used for any purposes deemed suitable or may be delivered and paid over to any corporation which may be formed pursuant to Article VIII, Section 1, of the Constitution.

CHAPTER XI.—REFERENDUM AND PETITION

Section 1.—Reference of Resolutions to Vote of Members

The House of Delegates may at any time, by a majority vote of those present, refer any resolution or motion pending before it to all of the active members of the Association for their vote for or against such resolution or motion. The Council may, by a two-thirds vote of all of its members and at any time within thirty (30) days after action was taken, refer any resolution or motion adopted by the House of Delegates to all of the active members of the Association for their vote for or against such resolution or motion. In addition, the Council may at any time, by a two-thirds vote of all of its members, submit any resolution or motion pending before it to all of the active members of the Association for their vote for or against such resolution or motion.

Section 2.—Form of Referendum: Arguments

The body referring any resolution or motion to the active members of the Association may, in the motion of reference, determine the form of the question to be submitted. In the event the motion of ref-

erence does not determine the form of the question to be submitted, then the form thereof shall be fixed and determined by the Council. Written arguments for and against the resolution or motion, not exceeding 1000 words each, may be submitted by any member of the Association to the presiding officer of the referring body within fifteen (15) days of the vote of reference. Such presiding officer may choose one argument on each side and same shall then be printed and mailed with the ballots.

Section 3.—Manner of Voting; Time of Voting; Canvass

All references to the membership under this article shall be by mail ballot. The time within which each member shall cast his vote may be fixed in the motion of reference, and if not so fixed shall be fifteen days from the date of mailing ballots. Each vote must be in writing and the same must be placed in a sealed envelope bearing on the corner thereof the name of the voter. The envelope shall be mailed or delivered to the Secretary's office. The canvass thereof shall be made by a committee on referendums to be appointed, in the case of reference by the House of Delegates by the Speaker of the House, and in the case of reference by the Council by the Chairman of the Council. The Secretary shall deliver to such committee all ballots timely received, and the committee shall canvass the vote and report the results thereof immediately to the Secretary.

Section 4.—Effect of Referendum

To be considered adopted, any resolution or motion submitted to the membership by referendum shall require the same proportionate affirmative vote of those voting that such resolution or motion would have required to be adopted by the body (House of Delegates or Council) from which such resolution or motion was referred. Any resolution or motion submitted to a referendum and adopted shall have the same force and effect as though adopted in the body from which it was referred, and shall be considered as having been so adopted by such body. A referendum shall not be effective or binding unless a majority of the active members vote thereon.

Section 5.—Petitions

Any 100 active members or any component society may petition the House of Delegates or Council on any matter and such petition must thereupon be heard and considered at the next ensuing regular meeting of such body.

CHAPTER XII.—MISCELLANEOUS

Section 1.—Ethics

The principles of medical ethics as promulgated from time to time by the American Medical Association and by the California Medical Association are and shall be the principles of medical ethics of this Association and the component societies thereof, and shall regulate and govern all members thereof.

Interpretation of ethics about which any controversy may arise or exist shall be submitted to the Council of this Association, and its interpretation and ruling thereon shall be final.

Section 2.—Rules of Order

In the absence of any provision in the Constitution or these By-Laws, all meetings of the Association, of the House of Delegates, of the Council, and of committees shall be governed by the parliamentary rules and usages contained in the current edition of Roberts' "Rules of Order."

CHAPTER XIII.—AMENDMENTS

Section 1.—Amendments—Vote and Procedure

These By-Laws may be amended by the House of Delegates at any meeting of any session thereof by the affirmative vote of at least two-thirds of the qualified members thereof present and acting; provided, that any proposed amendment has been submitted in writing to the House of Delegates at least twenty-four hours previous to being voted upon.

CHAPTER XIV.—REPEAL OF ALL EXISTING BY-LAWS

Section 1.—Repeal of Existing By-Laws

All chapters and all sections and parts of all chapters of the existing By-Laws of this Association are hereby repealed.

Questions and Answers about C. P. S.

Question: Do all Grange members have same benefits?

Answer: Yes, coverage for Grange members is uniform for subscribers and family dependents alike. This coverage is medical-service-while-hospitalized, surgical and hospital.

Question: Is radiation therapy ever a benefit under the C.P.S. surgical contract?

Answer: Yes, but only in certain of the superficial malignancies—such as cancer of the lip and cancer of the cervix where radiation therapy is the chosen method for destruction of the lesion. On the other hand, radiation therapy is not a surgical benefit of certain other superficial conditions—such as acne, fungous lesions, etc.

Question: How does the C.P.S. income ceiling apply to a patient whose income is less than $3,600, but who is "worth" $50,000?

Answer: C.P.S. contracts state that service benefits are available to those persons whose gross family income was less than $3,600 in the preceding calendar year. The capital "worth" of a family cannot be taken into consideration unless dividends or other earnings from that worth result in income over $3,600.

Question: When will physician members receive an adequate fee from C.P.S., or will they continue to bear the burden of taking the loss entailed in operating C.P.S.?

Answer: One of the resolutions of the House of Delegates at the last C.M.A. convention was that all future C.P.S. policies should be designed to pay the full fee schedule. Acting in accordance with this resolution, the Board of Trustees has developed new contracts which are designed to pay adequate fees to physicians. The process of converting all old contracts to new contracts is now under way and will be completed as soon as practicably possible.

Question: What is covered under "medical coverage in and out of the hospital"?

Answer: C.P.S. has various contracts and it is not possible to give a detailed analysis of each here. The physician's attention is directed to the patient's identification card for determination of benefits. Whenever any additional information is required, the physician may contact the C.P.S. Medical Department or Physician Relations Department.

Question: How can a commercial company offer a more "attractive package" than C.P.S., which is non-profit?

Answer: If considered only from the viewpoint of fees, it might appear commercial coverage is more "attractive." However, a fuller understanding, which this question calls for, does not support belief that commercial coverage is more attractive.

The greater percentage of C.P.S. patients receive "service" benefits, while commercial companies provide "indemnity" benefits. The difference between a service and an indemnity contract is: A service contract sets no dollar limit on the benefits a person may receive for various ailments; an indemnity contract allows a specified amount for each ailment. Thus the amount paid by C.P.S. in a given case can, and often does, greatly exceed any indemnity schedule of benefits.

Finally, it should be pointed out that the service principle of C.P.S. represents the wish of California's medical profession to provide, as much as possible, benefits which are in accordance with the needs of the case—and especially for persons in lower income brackets.

Question: Why cannot the $3,600 income clause be removed from the C.P.S. contract?

Answer: If the income clause were abolished, it would tend to convert C.P.S. from a service to an indemnity plan, whereas it is the wish of the medical profession in California to provide service benefits for persons in the lower income brackets. It is perhaps pertinent to point out that some medically-sponsored plans in the United States provide service benefits regardless of income, while other plans have income ceilings up to $6,000. The C.P.S. income ceiling is set by the House of Delegates of C.M.A., acting as administrative members of C.P.S.

Question: I sometimes have billing forms returned with a notation saying "contract for x-ray covers fractures and dislocations only." Is the patient's coverage for these x-rays void if no fractures or dislocations are found?

Answer: This question refers to the C.P.S. surgical contract. It provides that, outside the hospital, x-ray benefits apply only to fractures and dislocations in accident cases. If such x-rays show no fractures or dislocations, the x-ray benefits still apply, but the physician must indicate on his billing that the x-rays were taken to determine the presence of a fracture or dislocation resulting from an accident.

The only difference between old and new surgical contracts on this point is that new contracts limit these x-rays to a *total of $25.00 per year outside the hospital.*

Question: Explain why osteopaths get our (C.P.S.) rate of fees and may charge in addition while we are limited.

Answer: An osteopath who does not have the license of physician and surgeon is not reimbursed by C.P.S. An osteopath who does hold such a license is paid the same rate as a C.P.S. physician member if he treats a C.P.S. patient. Osteopaths were included in the C.P.S. program on the recommendation of the Chandler Committee Report to the House of Delegates, the reason for the action being the belief that the public should have free choice of physicians licensed to practice medicine and surgery.

NEWS and NOTES

NATIONAL • STATE • COUNTY

ALAMEDA-CONTRA COSTA

Dr. Dorothy M. Allen was elected president of the Alameda-Contra Costa County Medical Association, succeeding Dr. T. Eric Reynolds, at the recent annual meeting of the organization. Dr. Cyril J. Attwood was elected vice-president and Dr. Paul Michael secretary-treasurer.

KERN

The Kern County Medical Society has elected the following **officers for 1951:** President, Dr. Roderick A. Ogden; vice-president, Dr. George W. Garner; secretary-treasurer, Dr. Robert W. Sheldon. Delegates to the California Medical Association are Dr. Sophie L. Goldman, Dr. Robert Patrick, and Dr. J. E. Vaughan.

LOS ANGELES

Orthopaedic Hospital, Los Angeles, aided by a grant from the National Foundation for Infantile Paralysis, will offer three short-term **courses in poliomyelitis** for physicians during 1951. Courses are scheduled to begin on February 12, May 21 and October 22. They will cover all phases of patient care with emphasis on coordination of services. Further information may be obtained from C. L. Lowman, M.D., 2400 South Flower Street, Los Angeles 7.

* * *

The program of the six-day annual **Postgraduate Convention** of the College of Medical Evangelists School of Medicine, to be held at the Biltmore Hotel, Los Angeles, March 11-16, will be designed particularly **for general practitioners,** according to official announcement of the course. Thirty-two speakers drawn from the faculties of every western medical school will present lectures, panel discussions, scientific exhibits and motion pictures, the announcement said.

The program will be divided into two main parts, three days of scientific papers, exhibits and motion pictures, followed by three days of concentrated special courses. Further information may be obtained from Postgraduate Assembly of the College of Medical Evangelists, 312 North Boyle Avenue, Los Angeles 33.

* * *

Dr. K. C. Brandenburg of Long Beach was elected president of the Los Angeles Society of Ophthalmology and Otolaryngology at the annual meeting of the organization in November.

* * *

Dr. R. O. Bullis was elected president of the Los Angeles County Medical Association for 1951 at the annual meeting of the association in December. Dr. William E. Costolow, last year's president, was elected a trustee for a five-year term. Dr. Warren A. Wilson was elected vice-president and Dr. Paul D. Foster secretary-treasurer.

SACRAMENTO

Dr. Ira O. Church, formerly health officer of Santa Barbara County, recently was appointed health officer of the City of Sacramento. Dr. Herbert Bauer had been serving as acting health officer for Sacramento.

SAN DIEGO

Dr. J. B. Askew, director of the San Diego Department of Public Health, has been elected president of the California Conference of Local Health Officers. In that office he succeeds Dr. W. E. Turner, health officer of Santa Clara County. Dr. Elmer M. Bingham, San Joaquin District health officer, was elected vice-president, and Dr. Roy O. Gilbert, Los Angeles County health officer, secretary.

SAN FRANCISCO

Dr. Garnett Cheney was elected president of the San Francisco County Medical Society at the annual meeting in December. He succeeds Dr. William L. Bender, who was elected a director of the organization. Dr. Phillis Bourne was elected first vice-president, Dr. Emile D. Torre second vice-president. Reelected secretary-treasurer was Dr. Allen T. Hinman.

In addition to Dr. Bender, the following directors were elected: Dr. Dorothy W. Atkinson, Dr. Walter Beckh, Dr. William G. Burkhard, Dr. Francis L. Chamberlain, Dr. Kenneth Gardner and Dr. David A. Wood.

* * *

Physicians wishing to refer **patients with hemophilia** or allied abnormalities of blood coagulation for special study, without charge, by members of the faculty of Stanford University School of Medicine, may do so as a result of an anonymous gift of $8,000 per year for three years to the university for research on the disease. Investigations into the fundamental nature of the coagulation defect are being conducted, and it is planned to study methods of therapy, including the effect of fractions of plasma protein on the course of hemophilia. Physicians who wish to refer patients should contact the office of the dean of the medical school in San Francisco.

SANTA BARBARA

Dr. Joseph T. Nardo became acting health officer of Santa Barbara County, effective November 15, succeeding Dr. Ira O. Church, who left the post to accept appointment as health officer of the City of Sacramento.

SOLANO

Dr. John J. Garthe was elected president of the Solano County Medical Society at a recent meeting, succeeding Dr. Bernard O'Donnell, who was elected to a four-year term on the board of directors of the organization. Dr. R. Matthew Gibbons was elected vice-president and Dr. Irwin Shankman secretary-treasurer.

* * *

Dr. John A. Saltman has been appointed health officer of the city of Vacaville, to succeed Dr. Henry L. Fuller.

STANISLAUS

Dr. Hans Hartman has been appointed by the board of supervisors of Stanislaus County as medical director of the county hospital. Dr. Hartman, a member of the hospital staff for some time, succeeded Dr. Richard D. Husband who resigned as medical director early last month.

GENERAL

The California State Board of Public Health will hold a hearing on January 19, 1951, at 10:30 a.m. in Room 668 Phelan Building, 760 Market Street, San Francisco, on proposed amendments to the California Administrative Code, Title 17, Chapter 1, Subchapter 3, Groups 2 through 8 (including all articles), Section 196 through 764 pursuant to authority of Sections 208, 1,400 to 1,421, Division 2, Chapter 2, of the Health and Safety Code.

POSTGRADUATE EDUCATION NOTICES

For more complete information as to fees and time of sessions address the institutions as listed.

UNIVERSITY OF SOUTHERN CALIFORNIA SCHOOL OF MEDICINE

CARDIOLOGY—12 weekly two-hour evening lectures on all aspects of heart and peripheral vascular diseases, with special emphasis on the evaluation of cardiac drugs and the practical interpretation of x-rays of the heart and electrocardiograms. Inglewood, January 18, 1951.

ENDOCRINOLOGY—12 weekly two-hour evening lectures and demonstrations on the clinical characteristics of the endocrine syndromes, their pathology, physiology, diagnosis and treatment. San Diego, January 19, 1951.

UNIVERSITY OF CALIFORNIA MEDICAL EXTENSION, San Francisco 22

Graduate Instruction:

February 5 to April 9, 1951 (Monday evenings).

Clinical Science as applied to General Medicine, Part III, Gastroenterology.

September through January (Monday and Wednesday evenings).

Didactic Resident Course in Ophthalmology. Part I, First Semester.

(A few places are available in each of the above for practicing physicians.)

Postgraduate Courses for Practicing Physicians:

January 23 to 26 (at Franklin Hospital).

Urology in Practice. Lectures and demonstrations on newer methods.

January 29 to February 2 (mornings at Medical Center).

Cardiovascular Diseases. Recent advances in diagnosis and treatment.

Electrocardiology (afternoons at Medical Center). One hour lecture and two hours of practice in interpretation.

February 19 to 23 (University Extension Building, 540 Powell Street).

Diseases of Chest. Recent advances and evaluation of fundamental diagnostic and therapeutic problems.

UNIVERSITY OF CALIFORNIA AT LOS ANGELES

Internal Medicine—9 months full-time, December 4, 1950 to September 1951.

Trauma, Fractures, and Reconstructive Surgery—December 7, 1950 to April 1951. One per week.

Institute on Upper Extremity Prosthetics, January 22 to 26, 1951.

Advanced Hematology—January 10 through February 28, 1951. One night a week for eight weeks.

STANFORD UNIVERSITY, SCHOOL OF MEDICINE, San Francisco 15

Clinical Ophthalmology—March 26 to March 30. Registration limited to 30 physicians limiting their practice to the treatment of diseases of the eye or eye, ear, nose and throat.

THE COLLEGE OF MEDICAL EVANGELISTS

Differential Diagnosis and Treatment of Internal Diseases—January 8 through March 26, 1951.

Dermatology—January 3 through March 21, 1951.

General Urology—January 3 through February 28, 1951.

Proctology—January 4 through March 8, 1951.

Cardiology—January 9 through March 13, 1951.

Ophthalmology — January 30 through March 20, 1951.

Histology and Histopathology of the Eye—February 28 through June 20, 1951.

Varicose Veins—March 1 to April 5, 1951.

The proposed amendments clarify current **requirements for hospital licensing** and eliminate duplication. As proposed, they provide one section of requirements which would apply to all hospitals, nursing homes, sanatoria, etc., followed by specific requirements which apply to each category.

Copies of the present and proposed regulations are available for inspection in the California State Department of Public Health, Los Angeles and San Francisco offices.

* * *

The American College of Allergists will hold its seventh annual meeting at the Edgewater Beach Hotel, Chicago, February 12, 13, and 14, 1950. A three-day course of instruction for physicians who wish to learn the basic principles of diagnosis and treatment of allergic diseases will be offered immediately before the opening of the annual meeting. Further information may be obtained from Fred Wittich, M.D., secretary-treasurer, American College of Allergists, LaSalle Building, Minneapolis, Minn.

* * *

The eleventh annual postgraduate convention of the **Oregon Academy of Ophthalmology and Otolaryngology** will be held in Portland, March 25 to 30. Guest speakers are: Dr. Richard G. Scobee, professor of ophthalmology, Washington University Medical School, St. Louis; Dr. F. Bruce Fralick, professor of ophthalmology, University of Michigan Medical School, Ann Arbor; Dr. Theodore E. Walsh, professor of otolaryngology, Washington University Medical School; and Dr. Maurice H. Cottle, professor of otolaryngology, Chicago Medical School.

* * *

The annual meeting of the California Society of Anesthesiologists, which this year is sponsoring the second biennial **Western Conference on Anesthesia,** is scheduled to be held April 2 to 4 at Hotel del Coronado in San Diego. "Circulation" will be the theme of the Western Conference.

* * *

The third **Western Institute on Epilepsy** will be held in Salt Lake City, Utah, June 15 to 17, 1951. The meeting is designed to be of interest to physicians, social workers, public health nurses, employers, teachers, rehabilitation workers, state hospital personnel, and education leaders.

Further information may be obtained by writing to Dr. Harriot Hunter, University of Colorado Medical Center, 4200 East Ninth Avenue, Denver, Colorado, or Dr. Jean P. Davis, University of Utah, College of Medicine, Salt Lake City, Utah.

BOOK REVIEWS

HANDBOOK OF BACTERIOLOGY for Students and Practitioners of Medicine. By Joseph W. Bigger, M.D., Sc.D. (Dublin), F.R.C.P. (London), Professor of Bacteriology and Preventive Medicine, University of Dublin. Sixth Edition. The Williams and Wilkins Company, Baltimore, 1950. $4.50.

Textbooks such as this that have survived six editions and 12 printings must have substantial merit to have endured so long. The most casual perusal of this very excellent book confirms this impression. Approximately the first half of the book is devoted to techniques for the examination and cultivation of microorganisms, the various antimicrobial substances, the normal flora of human beings and some of their environments, and to a brief discussion of immune phenomena. Of particular value to physicians are the descriptions of methods for the collection of materials from patients, identification of pathogenic bacteria, practical laboratory methods in connection with antibiotics, and a description of the normal flora of the human body.

The last half of the work is devoted to a description of the various microorganisms which cause disease in man. Very little space is devoted to the viruses and Rickettsiae since this is a highly specialized subject requiring techniques not usually available to the hospital laboratory or to the physician. The important bacteria are described concisely and one notes that a vast amount of traditional material pertaining to their properties of growth on a variety of bizarre media has been omitted. There is virtually no attempt to discuss the disease processes caused by the various microorganisms. This greatly strengthens and simplifies the book, and has avoided the many pits into which authors of such texts usually fall.

This textbook is eminently sound and should prove to be exceedingly satisfactory for use as a teaching text in courses of bacteriology. It is not sufficiently detailed to be used as a reference work and therefore can hardly be compared with some of the larger and more complete modern American and English texts. The literary style, as is so often the case in books appearing in England, is superior to that of most American texts, particularly in the basic sciences, and one feels that for this reason it might well attract the student's interest to a greater degree than might one of the many dry and pedantic American works on the same subject.

* * *

MULTIPLE SCLEROSIS AND THE DEMYELINATING DISEASES. Proceedings of the Association, December 10 and 11, 1948, New York. The Williams and Wilkins Company, Baltimore, 1950. $12.00.

If one comes away from this book without any very definite conviction regarding the etiology or treatment of the demyelinating diseases, and multiple sclerosis in particular, it is not due to any lack of thoroughness in the handling of the subject. Like all of the research publications of the Association for Research in Nervous and Mental Diseases, this work brings up to date all the knowledge we have regarding this common neurological condition. It is of primary importance to the practicing neurologist, but the internist and general practitioner may also find it of practical usefulness if they read selected portions. Thus the chapter on the electroencephalogram in multiple sclerosis might well be skipped by all except those devoting themselves largely to this laboratory procedure. It is to be feared that the encyclopedic nature of the work will discourage the clinician from rooting out the more practically important items that lie buried in the mass of detail.

RESEARCH IN MEDICAL SCIENCE. Edited by David E. Green, Ph.D., and W. Eugene Knox, M.D. The Macmillan Company, New York, 1950. $6.50.

This intensely interesting volume indicates, in a collection of sketches by experts in their subjects, the interdependence of the biologic sciences and the manner in which they are brought to the services of modern scientific medicine. Aside from indicating the logic and techniques of specialists in the various fields into which medicine overlaps, it serves to demonstrate that the physician, who calls upon the specialist for assistance in the solution of his problems, must become acquainted as an amateur in the field of research in which the medical problems presented by his patients fall. The volume presents a series of interesting essays and excursions into the many subjects which should arouse the attention of every modern physician and the undergraduate student of medicine, in order to act as a ferment to stimulate his interests in problems which need exploration.

* * *

DISEASES OF THE NERVOUS SYSTEM—Described for Practitioners and Students. By F. M. R. Walshe, M.D., Fellow of the Royal College of Physicians of London. Sixth Edition. The Williams and Wilkins Company, Baltimore, Md., 1949. $5.00.

No better recommendation for this book can be made than that it is now in its sixth edition since 1940. Its popularity is well deserved. It is primarily written for the use of the medical student and general practitioner; and to make a small volume on clinical neurology useful, practical and understandable is no easy task. The author rightly makes no pretense to cover all the fields of his subject and "to multiply the enumeration of those eponymous signs and syndromes by means of which enterprising clinicians stake out their claims as it were upon the human body. All this is a tyranny of words. . . . The emphasis is upon understanding clinical neurology in terms of applied anatomy and physiology of the nervous system, and to understand neurological illness not only as a lesion but as a sequence of events."

The book is divided into two main sections. The first is devoted to general principles of neurological diagnoses and includes a simple, brief description of salient neuroanatomical and neurophysiological facts as they relate to broad neurological syndromes. The second section describes the more common diseases of the nervous system, including space-occupying lesions within the skull such as tumor, hematoma and abscess, vascular disorders of the brain, epilepsy, acute infections of the nervous system, syphilis of the nervous system, affections of the spinal nerves, etc.

The weakest part of the book is in the description of the psychoneuroses, and here the author would have done well to enlist the cooperation of a psychiatrist. The author's differentiation between the so-called hysterical fits and "true" epileptic fits is the usual one that is so frequently encountered in textbooks, but despite this it is equally impossible to make an actual differentiation without long-term observation and electroencephalographic study. The presence or absence of incontinence or tongue-biting, which is mentioned by the author as a differential point, is actually of little important value.

The author may be complimented on the success of his task in presenting on the whole a clear and succinct review of clinical neurology.

OFFICE ORTHOPEDICS. By Lewis Cozen, M.D., F.A.C.S., Attending Orthopedic Staff, Veterans Hospital, Los Angeles County Hospital; Assistant Professor of Orthopedic Surgery, College of Medical Evangelists. Lea and Febiger, Philadelphia, 1950. $5.00.

This small volume describes a series of office procedures that the author believes indicated in the conduct of an orthopedic practice. He gives instructions relating to plaster of paris technique, to physical therapy, local anesthesia and the fitting of prostheses. A section is devoted to the disabilities commonly encountered in each part of each extremity. Another section includes a discussion of pathologic entities that cause pain or disability in various regions of the back, neck, extremities and jaws, with brief notes about treatment.

The individual specialist in orthopedic surgery will doubtless disagree with a number of ideas bearing on etiology and specific forms of treatment. This is to be expected because a consideration of this subject of office orthopedics must include a certain amount of treatment that is empirical. At times in the book, however, treatment is directed against pathology not generally accepted as etiologic. For instance, a paragraph is devoted to subdeltoid bursitis and also to radiohumeral bursitis, when many doubt that the basic pathology behind the complaints so named is really primarily bursitis.

In spite of its limitations, the book is worthwhile, because it deals with a field not well covered elsewhere in a small volume. Strikingly helpful are a good series of line drawings that explain special orthopedic exercises and tests, that portray special splints and braces as well as useful pieces of apparatus, and that illustrate particular techniques in orthopedic therapy.

* * *

THE CYTOLOGY AND LIFE-HISTORY OF BACTERIA. By K. A. Bisset, Ph.D., Lecturer in Bacteriology, University of Birmingham. The Williams and Wilkins Company, Baltimore, 1950. $3.50.

Thoughtful biologists and bacteriologists must have been aware for a long time that the techniques used in preparing the bacterial cell for microscopic examination by heat fixation and staining would have led to striking distortion in the appearance of microorganisms and would have obscured their true structure. That this is the case has been clearly shown by Bisset, who presents a summary of his work over a period of several years in this monograph. His beautiful microphotographs, showing the intimate cellular structure of bacteria stained by his special methods, are fascinating. For example, the gonococcus proves to be not the diplococcus of traditional bacteriology but a multicelled organism in which the processes of routine staining have caused the protoplasm to shrink away from the cell wall, thus forming two apparent cocci. The diphtheria and tubercle bacilli prove to be multicellular, nucleated organisms appearing not very different from any other plant. The author also presents a good deal of information in regard to chromosome behavior in bacteria and describes sexual and asexual stages of multiplication. The latter were to have been expected from the rapid development in the field of bacterial genetics and mutation, which has been so profitably explored within the last few years.

Finally, the author makes a plea for the simplification of bacteriological taxonomy on the basis of morphology as defined by these more refined techniques. His suggestions seem quite reasonable and doubtless would bring a greater measure of order to a subject which, at the present time, is confused beyond belief.

This book can be highly recommended to the physician with interests in general biology who wishes a quick and not overly complicated look at the structure of an immensely important group of living things.

A PRIMER FOR DIABETIC PATIENTS. An Outline of Treatment for Diabetes with Diet and Insulin including Directions and Charts for the use of Physicians in Planning Diet Prescriptions. By Russell M. Wilder, M.D., Professor and Chief of the Department of Medicine of the Mayo Foundation. Ninth Edition. W. B. Saunders Company, Philadelphia 1950. $2.25.

The present edition, the ninth of this well-recognized manual for diabetic patients, follows in general the same scheme of treatment as previous volumes. In the preface the author points out that he has advocated more liberal diets than formerly and is less rigid in his requirements for the control of glycosuria.

The essentials of diabetic treatment are presented in a very simple direct manner, and at the end of each chapter there are a series of questions covering the subject matter of that chapter. Certainly anyone who reads the book and answers all the questions will have a sound knowledge of the proper care of the diabetic patient.

There are a few points in which this reviewer is inclined to be critical of Dr. Wilder's teachings. First, in a book of 200 pages, the all-important question of obesity is covered in one short paragraph. It would seem that in a book designed to impress diabetics a great deal more emphasis should be placed on the evils of obesity.

Secondly, Dr. Wilder still seems to feel that animal fats, particularly dairy products, are greatly preferable to carbohydrates in the diabetic diet, and his recommended diets would seem to contain more fat than most dietitians advocate at the present time.

Finally, in the recommendation for treatment of diabetic retinopathy he says that treatment is unsatisfactory but still suggests the use of rutin, a substance most investigators have found to be worthless.

Despite these criticisms it is still felt that this manual should be recommended as required reading to most diabetic patients.

* * *

REGIONAL DERMATOLOGIC DIAGNOSIS—A Practical System of Dermatology for the Non-Specialist. By Ervin Epstein, M.D., Consultant in Dermatology and Syphilology to the Oakland Area Veterans Hospital and Mt. Zion Hospital, San Francisco. Lea and Febiger, Philadelphia, 1950. $6.00.

This book admirably fulfills the purpose for which it was written, an aid to dermatologic diagnosis for the general physician.

Many skin diseases follow a regional pattern of distribution. By carefully noting this distribution and by consulting a text such as this one on regional dermatology the general physician can often make an accurate diagnosis even though he has not been trained in the minutiae of dermatology. For example, he may not be expert in recognizing the burrow of scabies or in digging out the parasite, but if he notes that a pruritic eruption occurs on the interdigital webs, the flexors of the wrists, the tip of the elbow, the anterior axillary folds, around the umbilicus and on the buttocks and penis he may be positive that he is dealing with scabies.

The book is thoroughly up to date in respect to the newer diagnostic aids such as the "l.e." cell in lupus erythematosus, and the use of such new remedies as ACTH and cortisone.

Because of the necessity of considering each common dermatosis wherever it characteristically occurs there is considerable repetition and it is possible that the author could advantageously work out some system of cross-reference for future editions. There are some errors in typography and wording which he will undoubtedly correct.

Your reviewer is not aware of any other text which helps the general physician by such a practical approach to dermatology on a regional basis. Therefore the book is recommended as a supplement to standard dermatologic textbooks.

A MANUAL OF CARDIOLOGY. By Thomas J. Dry, M.A., M.B., Ch.B., M.S. in Medicine—Associate Professor of Medicine, University of Minnesota (Mayo Foundation); Consultant in Section on Cardiology, Mayo Clinic. Second Edition—Illustrated. W. B. Saunders Company, Philadelphia, 1950. $5.00.

This is a sound, concisely and clearly presented synopsis of cardiology. It is well and simply written. The second edition has been thoroughly revised, especially the chapters on congenital malformations, electrocardiography as related to clinical problems, coronary heart disease, congestive heart failure and subacute bacterial endocarditis. Also, a chapter has been added on pregnancy, anesthesia and surgical operations in relation to organic heart disease.

The chapter on coronary heart disease is exemplary in the clarity of its discussion on the pattern of electrocardiographic changes in both classical and atypical types of myocardial infarction. The discussion and presentations relative to electrocardiography have stressed the Wilson unipolar precordial leads.

There are certain exceptions to the usually clear, concise presentation. Page 32, which introduces the chapter on specific features in diagnosis, could be compressed into its first paragraph plus a single additional sentence. The rest of the page is unnecessary and confusing. The definition of angina pectoris (page 38) could be clarified for the benefit of the general practitioner. Chapter 5, on alterations in cardiac size and cardiac contour, is developed well until it reaches its climax on page 71; there the author tells the reader that roentgenologic methods "supply by far the most accurate information"; but he neither adequately tells the reader how to fluoroscope the heart nor what to look for. On page 178, sulfadiazine and sulfathiazole are recommended for the prophylaxis of rheumatic heart disease; this is unfortunate in a volume of this caliber written in the year 1950.

The above criticisms are written as suggestions for a future revision and in no way detract from the reviewer's impression that this is an excellent book which can be highly recommended to practitioners and students alike for reference.

* * *

THE ABNORMAL PNEUMOENCEPHALOGRAM. By Leo M. Davidoff, M.D., Director of Neurological Surgery, Beth Israel Hospital, New York City; Clinical Professor of Neurosurgery, New York University, Postgraduate Medical School; and Bernard S. Epstein, M.D., Associate Radiologist, The Jewish Hospital of Brooklyn, and Instructor in Clinical Radiology, Long Island College of Medicine. 695 illustrations. Lea and Febiger, Philadelphia, 1950. $15.00.

This volume deals with the abnormal pneumoencephalographic findings, seen in association with various intracranial pathological conditions in infants, children and adults.

The entire subject is presented in a straightforward, clear and concise fashion, with illustrations to demonstrate the various points under discussion. This includes case histories and illustrations of postmortem specimens.

The book is divided into three sections.

In the first part of the first section the authors discuss the relative frequency of the various types of tumors of the brain and their histological characteristics.

The last part of this section deals with the particular characteristics of intrinsic and extrinsic tumors involving the various regions of the brain. Each region is discussed in detail, presenting the clinical picture, a review of the literature and the authors' material. Under the latter heading the following points are discussed: (1) relative value of the plain roentgenograms, (2) pneumoencephalographic findings and the interpretation of such, (3) presentation of representative case histories, (4) a summary of the findings and differential diagnosis. All phases are adequately discussed and illustrated, leaving nothing to one's imagination.

The second section is headed "Non-neoplastic Tumors." In this section, as well as in the first, the authors follow the same general principles of presentation. Under this heading are included such conditions as chronic subdural hematoma, brain abscess, syphilis of the brain, vascular anomalies of the brain, cerebral hemorrhage and thrombosis. All points are adequately discussed and illustrated.

The third section, designated as "Non-tumorous Lesions of the Brain," forms a most interésting part of the volume. The following subjects are discussed in the same fashion as those in the other sections: (1) Cerebral atrophy. (2) Agenesis of the corpus callosum. (3) Platybasia, Arnold-Chiare malformation, meningoencephalocele and craniolacunia. (4) Congenital hydrocephalus; amaurotic family idiocy. (5) Optic chiasm and posterior fossa arachnoiditis. (6) Serous meningitis. (7) Encephalitis, encephalopathies and rare infections of the nervous system. (8) Tuberous sclerosis.

As a result therefore, the book will be of value and is recommended to those primarily interested in this subject, namely the neurological surgeon, the neurologist and the roentgenologist, as well as the graduate student in these various fields. In addition it will form an excellent reference book for the psychiatrist, pediatrician and internist.

* * *

COMMUNICABLE DISEASES. Edited by Roscoe L. Pullen, A.B., M.D., F.A.C.P., Professor of Graduate Medicine, Director of the Division of Graduate Medicine and Vice-Dean of the School of Medicine, Tulane University. Lea and Febiger, Philadelphia, 1950. $20.00.

This new book by Dr. Pullen and 52 contributors is the most inclusive and largest of modern textbooks on communicable diseases. In addition to the common infectious diseases included in most similar texts are chapters on many of our less common diseases, including contagious diseases of the skin and eyes, and numerous tropical diseases.

The all-inclusiveness of the text contributes to one of its shortcomings; namely, relatively brief coverage of some of the more important infections. Generally speaking, however, coverage is adequate for most purposes. The factual information contained is, for the most part, quite accurate and generally accepted. Certain statements, however, seem unfortunate to the reviewer. Some of these have to do with the unavoidable delay between compilation and publication during which time older remedies have been discarded and newer ones have replaced them. In such a category are the treatment of scarlet fever with sulfonamides, the use of vaccine in the treatment of pertussis, and the mandatory use of antiserum in meningitis due to H. influenzae.

Other shortcomings include too brief a discussion of the differential diagnosis of diphtheria, lack of mention of mumps meningoencephalitis without sialadenitis, and the statement that Koplik spots disappear when the exanthem erupts.

More than compensating for the comparatively minor deficiencies mentioned are excellent discussions of a large number of infectious diseases. The method of presentation is very satisfactory. The illustrations vary from fair to excellent.

Because of the size and expense of the volume it will probably not be as favored by students as many of the briefer texts, but it fills quite adequately the need for a reference text for anyone having more than passing interest in the problems of communicable disease. The reviewer recommends it highly to general practitioners, internists, pediatricians and public health officers as the most complete modern text available on the subject.

HANDBOOK OF MEDICAL PROTOZOOLOGY — For Medical Men, Parasitologists and Zoologists. By Cecil A. Hoare, D.Sc. (Lond.), Protozoologist to the Wellcome Laboratories of Tropical Medicine, London. The Williams and Wilkins Company, Baltimore, 1950. $7.00.

This typically English textbook is designed to cover the field of protozoology only, and with reference to Great Britain only and presumably especially for the (medical) undergraduate and general practitioner for whom such provision is practically non-existent. The subject matter of this book covers an excellent introduction, 61 out of 321 pages. Here are nicely discussed the general features, classification and ecology of the protozoa. From the clinical viewpoint the subject matter is limited to protozoa, therefore actually to "amoebas." Leishmania, trypanosomes and the very minor groups of flagellates, Coccidia and ciliates, most of which are non-pathogenic (like most of the amebas also).

This volume is a valuable aid for medical persons who need such a protozoology as limited above. For American physicians and medical students its usefulness would be considerably less than the more complete parasitologies by Craig and Faust, Chandler, Sawitz and Belden.

* * *

POSTGRADUATE GASTROENTEROLOGY. As presented in a course given under the sponsorship of the American College of Physicians in Philadelphia, December 1948. Edited by Henry L. Bockus, M.D., Professor of Gastroenterology, University of Pennsylvania Graduate School of Medicine. W. B. Saunders Company, 1950. $10.00.

As stated in its preface, this book represents in printed form the subject matter covered in a postgraduate course of gastroenterology given during a single week in December 1948 under the auspices of the American College of Physicians.

The subject matter covered in this postgraduate course of gastroenterology was presented mostly in the form of symposia and panel discussions and the proceedings are so transcribed in this volume.

Many well known physicians, authorities in the field of gastroenterology or closely allied fields, took part in the course and they came principally from the University of Pennsylvania Graduate School of Medicine, from Jefferson Medical College and Temple University Medical School, and in addition other well known gastroenterologists from New York, as well as surgeons, radiologists and professors of the physiological sciences. In all there were 53 physicians and scientists who took part in this postgraduate course of gastroenterology.

It was enjoyable to find a discussion of the common, everyday disturbance of pyrosis and a chapter dealing with gastric secretion in health and disease, describing the modifying effects of parasympathomimetic drugs, mucin, and also the value of the various methods of gastric analysis.

The subject of gastric neoplasm is interestingly discussed as to diagnosis from roentgenologic and cytologic aspects, its surgical treatment, and prognosis. One gains the impression that the five-year survival rate is higher in the surveys mentioned than in certain other reports of a large series of cases.

The subject of peptic ulcer is discussed as to diagnosis, medical and surgical treatment and with a very live panel discussion of the values of vagotomy. Dr. Bockus' own view was not one of enthusiasm at that time and he felt that much more experience with an extended follow-up over a period of years was necessary before the true value of this surgical measure of therapy could be ascertained.

Other chapters deal with psychosomatic, psychiatric and functional disturbance of the gastrointestinal system, food allergy, a very thorough discussion of pancreatic physiology, the function of potassium in the body, the treatment of intestinal obstruction, the differential diagnosis of jaundice and the physiology of biliary dyssynergia. Still another chapter on chronic ulcerative colitis discusses this disease in respect to the studies on lysozyme activity, nitrogen metabolism, and its surgical treatment, while the last chapter deals with carcinoma of the colon.

Reading this text is very refreshing because of the method of presentation of the various subjects, followed by panel discussion with questions and answers. One can almost feel that he too is in attendance at this postgraduate course in gastroenterology. Dr. Bockus is to be congratulated for the organization of such a thorough course by prominent physicians and surgeons, and for his efforts to bring together all the subject matter presented, then to edit it and have it published. It is a valuable service to all who are interested in gastroenterology and who cannot attend such courses of postgraduate study. It is hoped that the American College of Physicians will have the subject matter of other of its postgraduate courses presented in book form for which this volume sets an admirable example.

* * *

TEXTBOOK OF BACTERIOLOGY. By Joseph M. Dougherty, A.M., M.A., Ph.D., Dean of the School of Science and Professor of Bacteriology, Villanova College; and Anthony J. Lamberti, B.S., M.S., Instructor in Bacteriology and Parasitology, Temple University. Second Edition. 141 Illustrations. The C. V. Mosby Company, St. Louis, 1950. $5.75.

Textbooks of bacteriology have flowed across this reviewer's desk in a steady stream for the last several years. He constantly wonders what stimulus there is to the continued production of books in a field which is already surfeited with many excellent texts. This one has been designed, according to the authors, for use in the teaching of bacteriology to premedical, predental, and pretechnicological students. If it is accepted that it is desirable to burden the already crowded curriculum in these years with a course in bacteriology, then this text might well be suitable for the purpose for which it is intended. It is simply written, discussions of the various topics are reasonably brief, and presumably it could be read with profit by students with a minimum of previous scientific training. The authors struggle with the usual difficulties arising in this sort of work when the descriptions of the microorganisms themselves are left behind and discussion of the host-parasite relationship and disease states is attempted. This is particularly apparent here when treatment is under discussion. A preliminary chapter, which seems excessively long, is devoted to the chemistry and description of the various antimicrobial agents. In spite of this fact, the sections on the use of these substances in various disease states are strangely old-fashioned, and sound as if they had not been rewritten for this edition.

A few specific criticisms also may be made of the book. A bibliography is appended as footnotes throughout the work, and many of the references are to original articles published many years ago. The inclusion of these for historical purposes is of interest, but if beginning students are to be interested in the consultation of original sources a substantial number of those listed must be current summaries of knowledge in readily available journals published in English. Two chapters could well have been omitted. One of these is a morphological description of the blood which does not belong in a textbook of bacteriology; the other is a 24-page discussion of the precise techniques for the performance of the complement-fixation test, which need not be considered in this detail in a beginning course which should be devoted largely to principles.

In summary, this is not a very interesting nor stimulating text, and it contributes no new thoughts, pedagogic or scientific. It will probably be satisfactory for beginning students but is not highly recommended.

GERIATRIC NURSING. By Kathleen Newton, R.N., M.A., in charge of Graduate Nurse Education, Cornell University-New York Hospital School of Nursing. Illustrated. The C. V. Mosby Company, 1950. $4.50.

This is a text for nurses who are concerned primarily with the care of older people. It is planned for those who nurse the aged, either in the home or the hospital, in the private or the public agency. It gives full recognition to the importance of the sociological, psychological and economic background of the geriatric patient. It stresses such factors as adequate housing, general hygiene and nutrition (the first two sections—126 pages—are given over to these considerations). The major section—273 pages—deals with the common clinical conditions which need emphasis in the minds of nurses caring for the aged.

The book is written in a simple, clear manner which makes it of interest to the doctor and layman as well as to nurses concerned with their part—often major—in the basic problem of how to make old age more satisfying.

* * *

WILLIAMS OBSTETRICS. By Nicholson J. Eastman, Professor of Obstetrics, Johns Hopkins University, Obstetrician-in-Chief, Johns Hopkins Hospital. Tenth Edition. Appleton-Century-Crofts, Inc., New York, 1950. $12.50.

For nearly 50 years this book has been a standard reference for teachers and students of obstetrics. It is so well known to all who have an interest in this subject that there is little of importance a reviewer can say. But it should be pointed out that this new tenth edition is by all odds the finest and most extensive revision of all, more than half the text having been completely rewritten. The title "Williams Obstetrics" has been restored, and fittingly so, since once again the book represents to a large extent obstetric practice in the Johns Hopkins Hospital, where Williams reigned for so long a time.

The volume begins with an entirely new orientation chapter concerned with what might be called the public health aspects of obstetrics—birth rates, maternal mortality, stillbirths and neonatal mortality—as well as some remarks about problems for the future. The material on toxemia of pregnancy has been thoroughly revamped, and such things as vomiting, acute yellow atrophy of the liver, and renal disease have rightly been set apart. One might wish that the revision had been even more extensive, with a view to eliminating the somewhat artificial separation of eclampsia and preeclampsia. Thirty-three pages fall under the heading "eclampsia," which accounts for only 1 per cent of all the toxemia cases seen at the Hopkins Hospital, while less than 14 pages are devoted to preeclampsia which accounts for 78 per cent of the toxemias. Unification and condensation of these portions of the text would be of great help to the undergraduate student and general practitioner.

A valiant attempt has been made to bring the text up to date on pelvimetry, uterine activity during labor, obstetric anesthesia, placenta previa, syphilis and diabetes in pregnancy, puerperal infection, hemolytic disease of the newborn, and on numerous other questions of lesser magnitude. A good deal of the old text has been deleted, particularly items now of only historical interest, and the bibliographic lists have been shortened. This edition is a hundred pages shorter than the previous one. It is likely, however, that an even greater cut could be made in the length of the book without impairing its value.

The section on hemolytic disease of the newborn was written by Dr. Milton S. Sacks, director of the Baltimore Rh typing laboratory, and is very well done. The genetic aspects of the situation are clearly stated and the remarks on clinical management of the Rh-negative obstetric patient seem especially well phrased.

Chapter numbers, deleted in the previous edition, have been restored. This is of considerable aid when one uses the book as a classroom text. In future editions it might be profitable to introduce some sort of numbering or lettering scheme to designate various subdivisions of the longer chapters. About 200 new illustrations have been included, quite a few in color, and many old figures have been removed so that the illustrations are actually fewer in number but superior in quality. Altogether this is a delightful volume which should be read and reread by all who delve into the obstetric art.

* * *

MEDICAL DIAGNOSIS — Applied Physical Diagnosis. Edited by Roscoe L. Pullen, M.D., F.A.C.P., Professor of Graduate Medicine, Director of the Division of Graduate Medicine, and Vice-Dean of the School of Medicine, Tulane University of Louisiana. Second Edition. W. B. Saunders Company, Philadelphia, 1950. $12.50.

In editing this volume, Dr. Pullen has elaborated an idea, favored by many teachers, that physical diagnosis should be expanded to incorporate and correlate all the methods which the clinician can summon to his command in examining the patient. These include various accessory procedures in the form of roentgenographic, fluoroscopic, histologic and other studies found helpful in the interpretation of phenomena at the bedside. To describe and amplify these procedures is the commendable purpose of "Medical Diagnosis." In putting it together, Dr. Pullen has produced a book much more bulky than the usual text on physical diagnosis and one which is at times unwieldy.

The book begins with chapters on the medical history and an introduction to the examination. It then proceeds through what might be termed a systematic discussion of the various parts of the body by "regions"; these include the skin, the blood and endocrine system as separate chapters. Finally there are general sections on the child, the aged and the psychiatric patient. The chapters which are new to this, the second edition, are those on the blood, on medical diagnosis in the aged and on the physical examination of the psychiatric patient. The sections on the eye, the abdomen and electrocardiographic interpretation have been completely rewritten.

There is, unfortunately, considerable variation in emphasis and volubility in the writing of the different chapters. For example, the excellent monograph by the late Hugh Auchincloss on an area as limited as the breasts is allotted 45 pages, whereas the entire section on the chest (by Julius Wilson) consumes only 63 pages. Seventy-five pages are given over to Sodeman's chapter on the heart and 75 pages to Bayley's chapter on electrocardiographic diagnosis. Roentgenography of the lungs and heart is given adequate but only moderate treatment in the respective chapters on these subjects, whereas one half of the section on electrocardiography is occupied with discussions of theory and of the normal electrocardiogram. The chapter on gynecologic and obstetric diagnosis by Carter is a model of completeness, but detailed quite out of proportion to the extent of its importance in such a book as this, and written with too much emphasis on definitions and too little on physical diagnosis. The informative chapter on the endocrine survey of sexual and reproductive systems by Hamblen includes considerable gobbledegook to detail the findings of the normal.

All in all this volume can be recommended to practitioners as a good to excellent (depending on the chapter) reference book on the various aspects of medical diagnosis. It gives due attention to several areas of the body usually somewhat neglected in texts on physical diagnosis, e.g., the skin, the mouth, the neck, the pelvis, the anus and rectum and the endocrine glands. It will not serve well as a textbook for the second year medical student, although he may find it useful as an ancillary reference.

THE RESULTS OF RADIUM AND X-RAY THERAPY IN MALIGNANT DISEASE. Being the Third Statistical Report from the Radium Institute, The Christie Hospital and Holt Radium Institute, Manchester, Years 1940-1944, inclusive, assessed at five years, and 1934 to 1938 assessed at 10 years. Compiled by Ralston Paterson, Margaret Tod and Marion Russell. E. & S. Livingstone, Ltd., Edinburgh (through Williams and Wilkins, U.S.A.), 1950. $2.50.

This small volume constitutes one of the finest summaries in the English language of the current results of competently administered irradiation. The volume is divided into three parts. Part I consists of a general report on the results of radiotherapy of new cases of malignant disease seen at the Holt Radium Institute between 1940 and 1944.

Part II deals with comparative analyses of results obtained with various radiotherapeutic techniques. Many of these are of great interest to the practicing radiologist, contrasting as they do radium with x-ray techniques, and "short" course with "long" course x-ray technique.

Part III is a ten-year report on the results of treatment during the years 1934 to 1938, and is an excellent illustration of the permanency of radiological cure in certain sites (notably in cancer of the uterine cervix, the lip, the larynx and the skin). On the other hand, in cancer of the breast and the urinary bladder, irrespective of method of treatment (surgical or radiological) late recurrences and metastases tend to adulterate the five-year figures.

Paterson's statistics on many sites are of great interest. For example, in cancer of the fundus uteri, his data show five-year cures by radium therapy alone similar to those obtainable with operation alone. He believes that in favorable or "operable" cases, irradiation offers as much as operation. His statistics bear him out.

The introduction to the book is of great interest, outlining as it does the problems of maintaining efficient cancer therapeutic services in wartime. "Casual bombing disturbed sleep and provided bomb stories; the Manchester blitz of Christmas 1940 filled the wards with casualties for a few days; and there are memories of an icy January afternoon when all doors and windows stood open while the Royal Navy disposed of the land mine which floated down gently to rest in the neighboring churchyard . . . but patients still demanded attention." A model of understatement from the hard-working Scot who is the senior author of this report and the director of the Radiation Therapy Center at Manchester.

* * *

BUCHANAN'S MANUAL OF ANATOMY, 8th Edition. Edited by F. Wood Jones, D.Sc. (Lond.), M.Sc. (Manch.), M.B., M.S., F.R.S., F.R.C.S. Eng., F.R.A.C.S., Sir William Collins Professor of Human and Comparative Anatomy at the Royal College of Surgeons of England. The Williams and Wilkins Company, Baltimore, 1950. $8.50.

For almost half a century Buchanan's "Manual of Anatomy" has occupied a unique place in the English anatomical literature as the only textbook of larger size written and arranged from a purely topographical or regional standpoint as opposed to the traditional systematic arrangement. In consequence, Buchanan's manual is admirably suitable as a dissection guide as well as serving as a standard work of reference. Furthermore, the regional approach is that which is most useful to the practicing surgeon seeking anatomical information. In fact, were the student of medicine restricted to a single textbook of anatomy, this work would come to mind as the first choice in one's recommendation.

This, the eighth edition, is the second issued under the general editorship of Professor F. Wood Jones. As in its immediate predecessor, the sections on systematic embryology and histology, which had become unduly elaborate, have been omitted, doubtless due to the recognition that such aspects are better treated in textbooks specifically devoted to these subjects. In place of these omissions a chapter on the general growth and development of the body has been substituted among the preliminary materials. At the same time enough embryological information has been retained where necessary to explain and achieve the descriptive text. Such revisions and alterations as have been made from the seventh edition are relatively minor so that there is no change in the format of the work, and page by page, the correspondence between the two editions is exceedingly close.

The physician, surgeon and medical student will find Buchanan's textbook a most reliable guide to standard information on the structure of the human body. In addition, he will find here and there certain details of information not readily obtained elsewhere. The arrangement of the work should make it especially attractive to the surgeon. It is a pleasure to welcome, in revised form, an old friend.

* * *

SANTA CLAUS, M.D. By W. W. Bauer, M.D. The Bobbs-Merrill Company, Inc., 730 North Meridian Street, Indianapolis 7, Ind. 1950. $2.75.

Dr. Bauer's most recent book presents the facts on medical care as it exists today in the United States, and compares it with medical care as furnished under socialized medicine (or, as he says, "sickness tax" medicine).

He avoids the pitfall of pages of complicated graphs and charts which make so many books and pamphlets on voluntary versus compulsory health insurance dull, unreadable and often unintelligible, especially to the layman. The A.M.A.'s 12-point program is not presented in the didactic 1-2-3 fashion which might deter the reader, but is given after clear background information; indeed, the discussion is so ably presented that when the points in the program are reached, they appear as logical conclusions. Details regarding the health plans in the individual states are summarized in an appendix, in usual pamphlet style.

The book is written from the viewpoint of a practicing physician, who is, after all, in one of the best positions to know the state of the nation's health and what should be done to improve it. Governmental control and good medical care are not compatible, and Dr. Bauer delineates the outlook for the patient's health and pocketbook under the political and the free systems. With realization of the costs and incompetent ramifications of compulsory health insurance, especially in view of the present state of the national budget and debt, the reader readily sees that "Santa Claus, M.D." is an expensive planner's dream.

Dr. Bauer has written a readable and interesting book on this controversial subject, and physicians would do well to recommend it to their patients and to the public at large.

* * *

COAGULATION, THROMBOSIS, AND DICUMAROL, With an Appendix on Related Laboratory Procedures. By Shepard Shapiro, M.D., Assisting Professor of Clinical Medicine, New York University College of Medicine, and Murray Weiner, B.S., M.S., M.D., Fellow in Medicine, New York University College of Medicine. Brooklyn Medical Press, P.O. Box 99, Station H, New York 25, N. Y. 1949. $5.50.

The authors have compiled in book form the salient features of the blood coagulation mechanism, the phenomenon of thrombosis and the mechanism of action of dicumarol in the treatment of thromboembolic disorders. The text is well written, direct and full of important clinical information, and the authors have striven to discuss principles and mechanism rather than the applications of a therapeutic agent, although they give detailed information concerning the therapeutic uses of dicumarol. A valuable appendix contains an outline of the necessary hematologic tests and techniques. The whole is surmounted by a limited and selected bibliography. The book is recommended to anyone interested in the problems of the coagulation of the blood and the medical or surgical treatment of pathologic coagulation *in vivo*.

"The thin, grey, foamy discharge associated with excoriation of the labia and vagina, strawberry spots on the cervix, and intense itching almost always means trichomoniasis. Trichomonas is associated with a mixed bacterial flora, but not necessarily with a purulent discharge."

Passmore, G. G.: Treatment of Discharges from the Vagina in Private Practice, North Carolina M. J. 11:487 (Sept.) 1950.

floraquin® —aims at restoring and maintaining a normal vaginal environment unfavorable to the growth of pathogenic organisms. Floraquin contains Diodoquin-Searle (diiodohydroxyquinoline), a potent trichomonacide and fungicide, combined with lactose, dextrose and boric acid adjusted to effect the reestablishment of the normal vaginal pH and, in turn, the normal flora. G. D. Searle & Co., Chicago 80, Illinois.

SEARLE
RESEARCH IN THE SERVICE OF MEDICINE

TIDI

PAPER SPECIALTIES

. . . for the Professional Office

Manufactured and Warehoused in California
For Immediate Shipment

BEST QUALITY • PRICED RIGHT

TIDI Examinatian Table Rolls—all sizes

TIDI Pure White Table Sheeting
A smooth poper, very strong, fully bleoched, 300' to roll

TIDI Creped Rall—Crinkle Type
A very strong creped stock with high wet strength, most suitoble for the exominotion toble; fits all dispensers

TIDI Cellulase Towels—Professianal size

TIDI Cellulose Draping Sheet—40"x48"

Distributed by leading supply houses throughout the west. Ask your deoler. If he doesn't hondle TIDI products, please write to us for informotion ond we will see thot you con obtoin TIDI Poper Speciolties promptly.

TIDI PRODUCTS

996 E. Price Street **Pomona, Calif.**

KABAT-KAISER INSTITUTE

For Neuromuscular Rehabilitation

1815 Ocean Front
Santa Monica, California

Specializing in the Treatment of the Crippled and Physically Handicapped Patient

Resident and Out-Patient Services

Resident Medical Director:

O. LEONARD HUDDLESTON, M.D., Ph.D.

Diplamate American Baard af Physical Medicine

Richard W. Moore, M.D. David Rubin, M.D.
Clark Richardson, M.D. Rene Cailliet, M.D.

Phone: EXbrook 3-2751

REPORTS X-RAY SUPERIOR THERAPY IN BREAST CANCER COMPLICATIONS

X-ray excels hormones in the treatment of patients with inoperable, advanced breast cancer which has spread to bony structures, according to a report to the American Medical Association.

The report, submitted to the association's Committee on Research of the Council on Pharmacy and Chemistry, is made public in a recent issue of the *Journal of the American Medical Association*. It was prepared by a group of San Francisco physicians associated with the San Francisco Hospital, Stanford University Service—Drs. L. Henry Garland, Milton L. Baker, William H. Picard, Jr., and Merrell A. Sisson.

This group is one of about 50 throughout the United States and Canada carrying on a collaborative study of steroids and their effect on breast cancer under the sponsorship of the Committee on Research.

A high percentage of cases of advanced mammary cancer develop complications in the form of bone metastases. This constitutes perhaps the leading source of distress and disability from the disease. In a majority of cases, there is pain and in many there are fractures. The question which the cooperative study is trying to answer is whether these bone metastases should be treated primarily with x-rays, with steroid hormones or with a combination of both.

The San Francisco group reported on a study of 79 patients treated with irradiation and of 20 patients to whom hormones were administered after it was proved that the breast cancer had spread and that the problem was largely one of relief of pain in the final stages of life. They also reviewed similar reports by other groups.

The report said that about 70 per cent of such patients are relieved of pain by roentgen (x-ray) therapy, the relief lasting for from 50 to 100 per cent of their survival time in some three-fourths of the cases.

In steroid hormone therapy from 40 to 75 per cent of such patients are relieved, the relief being more pronounced in those receiving androgens (male hormones) than those receiving estrogens (female hormones).

"This relief lasts for a variable number of months, the average being less in our experience than that obtained with irradiation," said the report.

The average survival of the patients receiving irradiation was 12 months in the San Francisco study, measured from the time the spread to bony structures was established. With hormones, the average survival was 8.8 months—8.1 months for patients receiving androgens and 9.7 months for a smaller group receiving estrogens.

The report also pointed out that the steroid hormones produced more side-effects and that some cases were considerably aggravated by therapy. Many of these effects, it added, could be controlled only by discontinuance of the hormone.

"In general, unpleasant side-effects appear in about 5 per cent of patients treated with roentgen

(Continued on Page 56)

"us doctors agree Eskadiazine tastes better"

Patients of all ages take Eskadiazine willingly—it is so good tasting, so light, so easy to swallow. Furthermore, Eskadiazine *acts faster* because it contains—instead of ordinary sulfadiazine—S.K.F.'s microcrystalline sulfadiazine in a stabilized suspension. With Eskadiazine desired serum levels may be attained 3 to 5 times more rapidly than with sulfadiazine in tablet form. No wonder Eskadiazine stands above all fluid sulfadiazine preparations available today.

Each 5 cc. (one teaspoonful) contains 0.5 Gm. **(7.7 gr.)** of sulfadiazine—the dosage equivalent of the standard half-gram sulfadiazine tablet.

'Eskadiazine' T. M. Reg. U. S. Pat. Off.

ESKADIAZINE

The outstandingly palatable fluid sulfadiazine

Smith, Kline & French Laboratories, Philadelphia

REPORTS X-RAY SUPERIOR THERAPY IN BREAST CANCER COMPLICATIONS

(Continued from Page 50)

rays and in about 25 per cent of those treated with steroids," said the report.

Chief among these side-effects were edema, hair growth, voice changes, an abnormally great rise of blood calcium, increased sex desires and other complications.

"Whether simultaneous irradiation and steroid hormone therapy increases or decreases, comfortable life has not yet been demonstrated," the report continued. "It is our impression that the two weapons ought to be used serially in patients with bone metastases and only when indicated, rather than simultaneously or in combination."

Commenting on the report, Dr. Walton Van Winkle of Chicago, secretary of the Committee on Research, said:

"The final conclusions must await evaluation of the studies now in progress. Nevertheless, it is believed that the data presented will be of interest and of value in further defining the role of steroid hormones in the palliation of advanced mammary carcinoma."

Rent an office, buy or sell equipment, find an associate. Read and advertise in CALIFORNIA MEDICINE'S Classified Advertising section.

The INSTITUTE for CHILD STUDY

TRACY J. PUTNAM, M.D., PRESIDENT

has been established to help meet the growing need for increased services to children and parents. Working with the referring physician, we propose to provide and focus the interest and advice of leaders in the fields of medicine, psychiatry, psychology, and education in a unified program for the study and therapy of children.

Services now offered include counselling and guidance for children and parents, and psychological tests and measurements. . . . Complete reports will be furnished for your clinical records.

450 North Bedford Drive • BEVERLY HILLS, CALIFORNIA • Telephone: CRestview 4-5304

THE MEDICAL PROTECTIVE COMPANY
FORT WAYNE, INDIANA

Professional Protection Exclusively since 1899

LOS ANGELES Office:
D. C. Seeman, Representative,
417 First Trust Bldg., Pasadena
Telephone RYan 1-6981
and SYcamore 3-0676

SAN FRANCISCO Office:
Gordon C. Jones, Representative,
1735 Sweetwood Drive
Telephone Plaza 5-4478

Sauthern Sierras Sanatarium

• for Tuberculosis and Allied Affections

BANNING, CALIFORNIA

Unsurpassed year-round climate
Near but not upon the desert
Absence of extremes • Altitude 2350 feet

Freedom from Smog

90 miles east of Los Angeles on Highways 99, 60 and 70

Sustained reputation for service and satisfaction

C. E. ATKINSON, M.D. . . *Medical Director*

Advertisers in your OFFICIAL JOURNAL *will appreciate requests for literature*

Exhausting cough goes...

Beneficial cough reflex stays...

MERCODOL provides prompt, selective relief that doesn't interfere with the cough reflex needed to keep throat passages and bronchioles clear.

This complete, pleasant-tasting prescription contains a *selective* cough-controlling narcotic[1] that doesn't impair the beneficial cough reflex . . . an effective bronchodilator[2] to relax plugged bronchioles . . . an expectorant[3] to liquefy secretions. Remarkably free from nausea, constipation, retention of sputum, and cardiovascular or nervous stimulation.

MERCODOL®

THE ANTITUSSIVE SYRUP THAT CONTROLS COUGH—*KEEPS* THE COUGH REFLEX

An exempt narcotic

MERCODOL with DECAPRYN®
for the cough with a specific allergic basis.

Merrell
1828
CINCINNATI • U.S.A.

Each 30 cc. contains:

[1]Mercodinone®— (dihydrocodeinone bitartrate)	10.0 mg.
[2]Nethamine®— (methylethylamino-phenylpropanol) Hydrochloride	0.1 Gm.
[3]Sodium Citrate	1.2 Gm.

Sodium Gentisate: A New Approach to the Treatment of Arthritis

It has been estimated[1] that nearly 7,000,000 people (at least one in every 20 persons) in the United States have some form of "rheumatic" disease. Rheumatism (with arthritis the most important single cause) ranks first in prevalence among diseases, and second in the production of disability and invalidism. It is more common than the total number of cases of tuberculosis, diabetes, cancer and heart disease combined.

The most common of the severe forms of the arthritides is rheumatoid arthritis. Although its etiology still remains uncertain, there are factors upon which there is general agreement.[2] (1) Rheumatoid arthritis has a definite tendency to be familial. (2) Eighty per cent of the cases occur between the ages of twenty and fifty with the peak at thirty-five to forty. (3) Females are more commonly affected than males in a ratio of 3:1. (4) Investigation shows that in the period preceding the onset of symptoms, emotional shocks are very common and this is frequently manifested by a severe depression.[3] (5) Pregnancy causes an amelioration of symptoms in a significantly high proportion.[4] (6) Involvement of the liver, as in infectious hepatitis, causes a definite remission in a significant number of patients.[5]

Since Klinge's[6] original work in 1929, evidence has been accumulating that both rheumatic fever and rheumatoid arthritis are diseases of the interfibrillar substance of the connective tissue.[7] The nature of this material is not well understood, although it is presumably a mucopolysaccharide in combination with a protein. This theory holds that changes in the cellular components are secondary to changes in the interfibrillar material. The composition of two of the mucopolysaccharides found in interfibrillar material is known: (a) chondroitin sulfuric acid, and (b) hyaluronic acid.[8] Changes in chondroitin sulfuric acid have been studied in hyaline cartilage which is affected to a considerable degree in rheumatoid arthritis.[9]

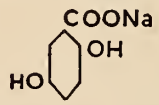
These changes have been on a purely morphological basis[9] and consist chiefly of destruction of hyaline cartilage, presumably due to interference with its blood supply by the overgrowth of pannus and granulation tissue, both beneath the subchondral plate and on the surface of the joint.

On the other hand, changes in the hyaluronic acid of the joint fluid have been shown to be present in active rheumatoid arthritis.[10, 11] These changes in active disease consist of depolymerization of the hyaluronic acid and an increase in the total amount of hyaluronic acid present. The excessive presence of hyaluronidase, moreover, has been acknowledged to produce a denaturization of mucin in the synovial fluid, the varying degrees of which are valuable for their diagnostic as well as prognostic indications.[12] Clinicians[13] have concluded that the increase of hyaluronidase activity may be responsible for the breakdown of interfibrillar cement.

A rational approach to the problem, therefore, demands a therapeutic agent that will act to inhibit the spreading effect of hyaluronidase.

Meyer and Ragan[14] treated patients having rheumatoid arthritis and acute rheumatic fever with sodium gentisate, a hyaluronidase inhibitor. Their results were uniform and notably favorable. Within a few days there followed a disappearance of pain, swelling and joint inflammation.

The increase in urinary glucuronic acid observed with salicylates does not occur with gentisates. This phenomenon has been assigned to the rapid oxidation of the gentisates.[15] It is indeed likely, as shown by examination of the structural formulas of these two compounds, that the antirheumatic action of the salicylate in forestalling the spread of hyaluronidase[16] is attributed to its partial oxidation in the body to a gentisate.



SODIUM GENTISATE

The corrective action of sodium gentisate is generally not an immediate one; therefore, as an added therapeutic measure, a salicylate, which provides prompt relief from pain, should be included in the formula.

The product of choice, therefore, should be GENTARTH Tablets, prepared by the Raymer Pharmacal Company of Philadelphia.

Each salol-coated GENTARTH Tablet contains:

Sodium Gentisate	100 mg.
Raysal-Succinate	325 mg.
(representing 43% Salicylic Acid and 3% Iodine in a Calcium-Sodium Phosphate Buffer Salt Combination)	
Succinic Acid	130 mg.

The recommended dosage is two or more tablets three or four times daily (after meals and before bedtime).

GENTARTH Tablets are supplied in bottles of 100, 500 and 1,000 and are available at all pharmacies on prescription.

1. Hench, P. S. et al.: Ninth Rheumatism Review, Ann. Int. Med., 28:66 (1937).
2. Dawson, M. H. & Ragan, C.: Chronic Arthritis, Nelson's Loose Leaf Medicine, New York, Thomas Nelson & Sons, In Press.
3. Thomas, G. W.: Am. J. Psychiat., 93:693 (1936).
4. Hench, P. S.: Proc. Staff Meet. Mayo Clin., 13:161 (1938).
5. Gardner, F., Stewart, A. & MacCallum, F. O.: Brit. M. J. p. 677 (Nov. 1945).
6. Klinge, F. & Grzimek, N.: Virchow's Arch. f. Path. Anat., 284:646 (1932).
7. Meyer, K.: Phys. Rev., 27:335 (1947).
8. Comroe, B. I.: Arthritis and Allied Conditions, Phila., Lea & Febiger, 4th Ed. (1949).
9. Flynn, J. et al.: Am. J. M., 1:675 (1946).
10. Ragan, C.: Ann. Rheum. Dis., 7:35 (1948).
11. Ropes, M. W.: Ann. Rheum. Dis., 7:35 (1948).
12. Ropes, M. W., Robertson, W. V. B., Rossmeisl, E. C., Peabody, R. B. & Bauer, W.: Acta. Med. Scand., Suppl., 196 (1947).
13. Meyer, K. & Ragan, C.: Mod. Concepts of Card. Disp., 17:2 (1948).
14. Meyer, K. & Ragan, C.: Feder. Proc., 7:173 (1948); Science, 108:281 (1948).
15. Quick, A. J.: J. Biol. Chem., 101:475 (1933).
16. Guerra, J.: J. Pharm. Exp. Ther., 87:1943 (1946).

For free clinical supply and literature, write to Raymer Pharmacal Company, N.E. Cor. Jasper & Willard Streets, Philadelphia 34, Pa.

(Advertisement)

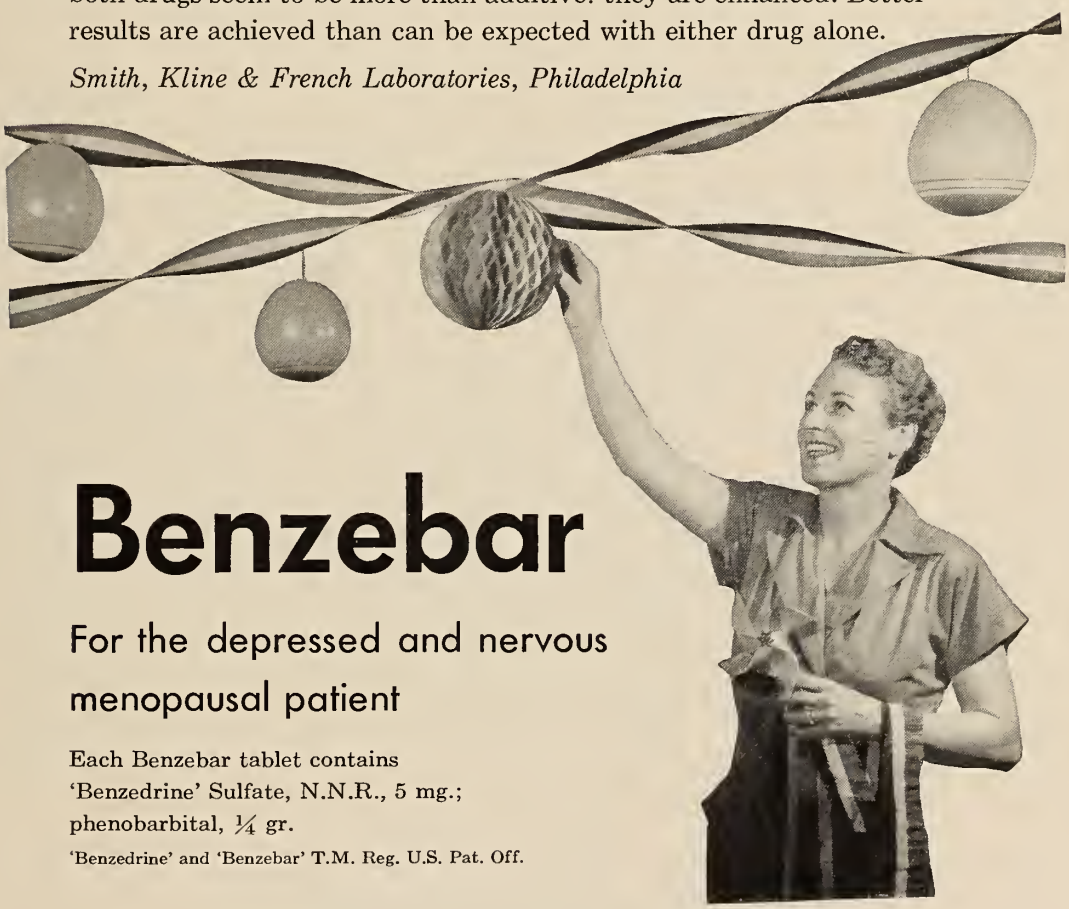
in the menopause:

new zest for life, new joy in living

Alone or in conjunction with estrogenic therapy, 'Benzebar'—combining 'Benzedrine' Sulfate and phenobarbital—is highly effective in controlling the neurotic symptoms of the menopause.

The 'Benzedrine' in 'Benzebar' restores optimism, cheerfulness and sense of well-being; imparts a feeling of energy and alertness. Simultaneously, the phenobarbital relieves tension, nervous excitability and agitation. And, combined in Benzebar, the beneficial effects of both drugs seem to be more than additive: they are enhanced. Better results are achieved than can be expected with either drug alone.

Smith, Kline & French Laboratories, Philadelphia



Benzebar

For the depressed and nervous menopausal patient

Each Benzebar tablet contains
'Benzedrine' Sulfate, N.N.R., 5 mg.;
phenobarbital, ¼ gr.

'Benzedrine' and 'Benzebar' T.M. Reg. U.S. Pat. Off.

SOCIALIZED MEDICINE FIGHT CONTINUES

Doctors in cities, towns and hamlets all over the country certainly can claim some of the credit for the conservative triumph in the recent election, but the results can hardly be interpreted as meaning that the issue of socialized medicine is dead, politically. Far from it!

While more than 40 million people spoke their mind at the polls, the doctors' fight against compulsory sickness insurance has not been won in the true sense. The profession, as a whole, cannot afford to rest on its oars and breathe an air of complete confidence. For all of us to enjoy complete contentment and overconfidence at this time would spell disaster in the future.

After all, the big exponent of socialized medicine, Mr. Ewing, is still in office. Fringe bills are tossing around in the congressional hopper. There are no rumors afloat that the Committee for the Nation's Health or the Physicians' Forum is disbanding, and Frank Edwards is still at his same old stand on the Mutual network five nights a week, dishing out socialized medicine propaganda on behalf of "Labor's League for Political Action, American Federation of Labor, New York."

These are forces that still must be recognized.

As Thomas A. Hendricks, secretary of the A.M.A. Council on Medical Service, said in a post election speech in New York: "This is no time to relax and play canasta."

Addressing 200 county auxiliary officers who attended the mid-year session of the Woman's Auxiliary to the Medical Society of the State of New York, Mr. Hendricks said:

"Very few candidates who were out-and-out proponents of compulsory health insurance were elected. Especially notable was the defeat of Congressman Biemiller of Milwaukee who, next to Oscar Ewing, was perhaps the most ardent spokesman of compulsory insurance in Washington.

"All this gives the medical profession a great opportunity to do a real, positive, constructive job in the field of medical service. Gaps in medical service certainly exist, but not very many of them can be filled by national legislation. Action has to come from the doctors—state by state, county by county, and community by community."

GEORGE F. LULL, M.D.,
Secretary and General Manager, A.M.A.

COLLECTIONS—with dignity and the utmost efficiency, recognized and recommended to the profession for over twenty years.

Seven Eighty-five Market Street San Francisco EXbrook 2-1670

"Representing Doctors of California by the Hundreds"

PROCREDIT COMPANY

Professional Finance & Credit Service "ASK ANY DOCTOR"

Represented by bonded agents throughout the United States

HYLAND IMMUNE SERUMS

HUMAN • DRIED

Mumps Immune Serum

IRRADIATED

Obtained from healthy adults who have been hyperimmunized with mumps virus vaccine.

Hyland Irradiated Mumps Immune Serum may be administered intramuscularly or intravenously.

Confers passive immunity for approximately 10 to 14 days. If exposure continues, immunity may be sustained by repeating dosage.

In the treatment of mumps, there is some evidence that the serum prevents serious complications if administered early in adequate amounts.

Pertussis Immune Serum

IRRADIATED

Obtained from healthy adults who have been hyperimmunized with pertussis vaccine.

Hyland Irradiated Pertussis Immune Serum may be administered intramuscularly or intravenously.

Confers passive or protective immunity for approximately 10 to 14 days. The dose is 20 cc. for young children and more for older children or adults. The dose may be repeated as indicated.

In treatment the dose must be greater than the prophylactic dose and repeated as indicated by the clinical course.

No preservative added, but treated with ultraviolet radiation. Dried for stability, simple to administer. Both AVAILABLE—20 cc. dried serum with suitable diluent.

Hyland Laboratories

BIOLOGICALS

4534 Sunset Boulevard, Los Angeles 27, California • 26 Vark St., Yonkers 1, New York

CALLS DOCTOR INDUCTION PROGRAM ORDERLY STEP TO MEET WAR NEEDS

Recently enacted legislation calling for the registration and induction of doctors, dentists and allied scientists into the military service was hailed as "one step toward an orderly program to meet the nation's military needs."

This opinion was expressed by Dr. Richard L. Meiling of Washington, director of the Medical Services Office, Secretary of Defense, in an article in a recent issue of the *Journal of the American Medical Association*. Dr. Meiling was formerly secretary of the Council on National Emergency Medical Service of the A.M.A., Chicago.

He pointed out that the Department of Defense will adhere to three principles: (1) that the actual requirements of the Armed Forces will be met; (2) that no more physicians will be called from civilian life than are actually needed to support the fighting forces, and (3) that they will be called in the most fair and equitable order possible.

"Military medical plans are inextricably bound up with other phases of medicine and with other governmental plans, military and nonmilitary," he said. "There must be full recognition of the medical needs of civilian communities and their hospitals and clinics; of state institutions, medical schools and teaching centers, and of the industries which are the bulwark of our military strength.

"The Veterans Administration, with its large hospital system, is required by law to render certain services. Further, it provides medical care which supplements and greatly supports the work of military medical services. Its continued operation, like that of the United States Public Health Service, is vitally important to the medical and health work of the Armed Forces."

Answering a criticism during the last war that specialists were used for nonspecialized duties, he said that there are more specialists than the military forces can use and added:

"If military requirements are to be met, it is inevitable that a certain percentage will be expected to serve as physicians first and as specialists second."

Reminder for arthritis cases!

The SAFE gold preparation AUROL-SULFIDE, 2% parenteral gold sulfide, is now available for physicians in any quantity desired, in 15, 30, and 60 cc. vials. Literature available. Please order direct or through your pharmacist.

6007 N. LINCOLN AVE.
HILLE LABORATORIES, Chicago 45

LIVERMORE SANITARIUM

• The Hydropathic Department devoted to the treatment of general diseases, excluding surgical and acute infectious cases. Special attention given functional and organic nervous diseases. A well equipped clinical laboratory and modern X-ray Department are in use for diagnosis.

• The Cottage Department (for mental patients) has its own facilities for hydropathic and other treatments. It consists of small cottages with homelike surroundings, permitting the segregation of patients in accordance with the type of psychosis. Also bungalows for individual patients, offering the highest class of accommodations with privacy and comfort.

GENERAL FEATURES

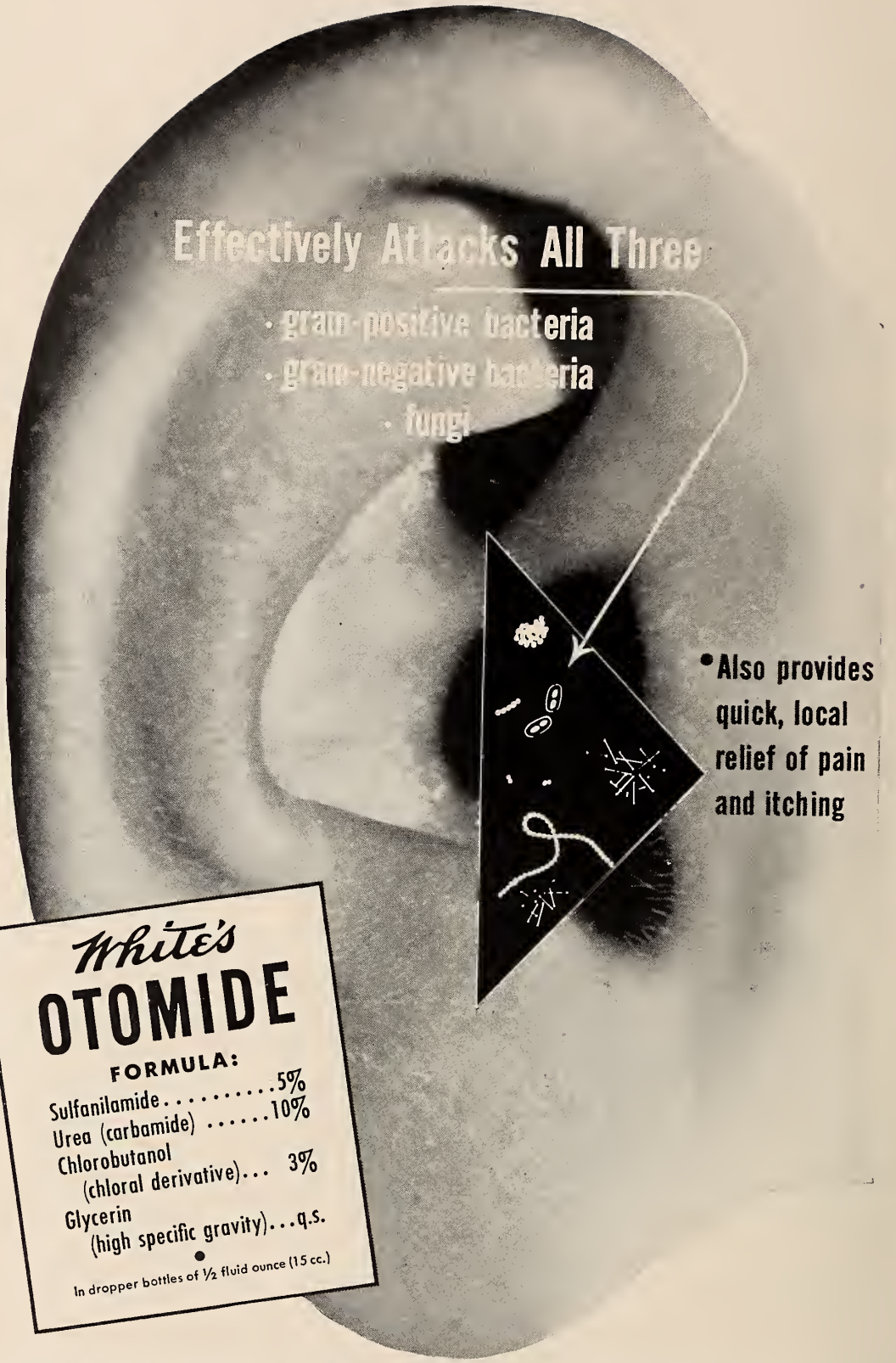
1. Climatic advantages not excelled in United States. Beautiful grounds and attractive surrounding country.
2. Indoor and outdoor gymnastics under the charge of an athletic director. An excellent Occupational Department.
3. A resident medical staff. A large and well-trained nursing staff so that each patient is given careful individual attention.

Information and circulars upon request.
Address: O. B. JENSEN, M.D.
Superintendent and Medical Director
LIVERMORE, CALIFORNIA
Telephone 313

CITY OFFICES:

SAN FRANCISCO
450 Sutter Street
GArfield 1-5040

OAKLAND
1624 Franklin Street
GLencourt 1-5988



White's
OTOMIDE

FORMULA:

Sulfanilamide.....5%
Urea (carbamide) 10%
Chlorobutanol (chloral derivative)... 3%
Glycerin (high specific gravity)...q.s.

In dropper bottles of ½ fluid ounce (15 cc.)

WHITE LABORATORIES, INC., Pharmaceutical Manufacturers, Newark 7, N. J.

ACCEPTED
COUNCIL ON PHARMACY AND CHEMISTRY
AMERICAN MEDICAL ASSOCIATION
Now a Council-accepted codeine derivative
Hycodan®
Bitartrate
(dihydrocodeinone bitartrate)
for selective cough therapy
Three forms: oral tablets (5 mg.); syrup (5 mg. per teaspoonful); and powder (for compounding). Average adult dose 5 mg.
May be habit forming; narcotic blank required.
Available on your prescription.
Literature sent on request.
Endo Products Inc., Richmond Hill 18, N. Y.
Endo

INFANTS FARE WELL ON PLANE FLIGHTS

Mothers worrying about whether or not to take infants on plane trips can find comfort in the fact that scientific studies indicate that the average healthy baby reacts better to flight conditions than do adults.

Writing on "Information for Mothers" in a recent issue of *Today's Health*, published by the American Medical Association, a medical consultant reports that "air sickness in infants is extremely uncommon."

In the case of the temporary disorder known as aero-otitis media, infants seem to fare much better than adults. The consultant explains it this way:

"In the infant the tube connecting the middle ear chamber and the throat is still short and straight. This tends to make its spontaneous opening and closing easier. In the adult the tube can be opened by chewing and swallowing movements, yawning or singing."

To forestall possible trouble with the infant, the parent (or attendant) is advised to waken the child and give him food or a bottle when the plane begins to descend.

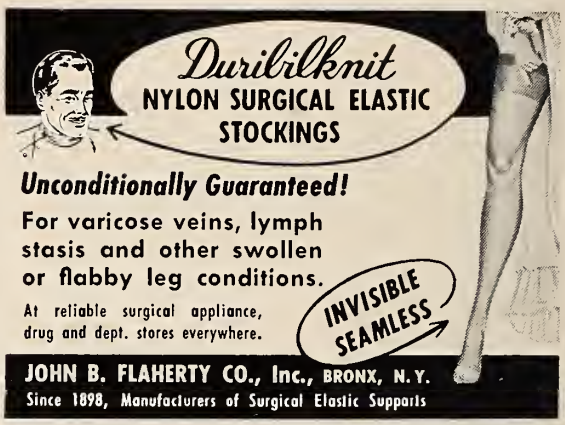
"If the infant has a head cold," mothers were cautioned, "advice of the family physician should be sought. It may be desirable to apply special treatments to reduce swelling in the throat tissues."

During a flight in which altitude changes are occurring and a pressurized cabin is not provided, mothers are advised to keep the child from swallowing air if possible when he eats.

Anti-Pyrexol

Active ingredients: Oils of spearmint, bay, wintergreen (syn.), salicylic acid, lanolin, zinc oxide, phenol (0.44%) ortho-hydroxyphenylmercuric chloride (.56%)—petrolatum, paraffine. Physicians in increasing numbers are using Anti-Pyrexol in the treatment of denuded and painful skin lesions—for burns, scalds, incised or lacerated wounds, surface irritations and local inflamed conditions of the skin and mucous membrane. An antiseptic ointment that combats toxemia, Anti-Pyrexol reduces pain, promotes healing, minimizes scarring. In 2 oz. tubes, and 1, 5, 10 and 50-lb. tins at your surgical supply house or jobber. Imitated—so ask for **easy spreading** Anti-Pyrexol.
ANTI-PYREXOL BLAND Same as Anti-Pyrexol except that Ortho-Hydroxy phenylmercuric chloride is omitted—suggested in treatment where chances of infection are lacking. Packed as Anti-Pyrexol.
ANTI-PYREXOL BENZOCAINE Represents Anti-Pyrexol plus Benzocaine 3%. Acutely anesthetic. Packed in 2-oz. Tubes and in 1, 5 and 10-lb. tins. *NOT ADVERTISED TO THE LAITY*

KIP CORP., Ltd. LOS ANGELES 21



WHEN YOU THINK "COLLECTIONS"

Think—"THE DOCTORS BUSINESS BUREAU"

THE OLDEST...THE LARGEST...THE BEST

AND

YOU CANNOT DO BETTER THAN THE BEST

OUR MOTTO:

"Persuasion Prevails Where Force Fails"

THE DOCTORS BUSINESS BUREAU

Call or Write Your Nearest Office:

Spreckels Bldg., Los Angeles 14
TRinity 1252
153 Kearny Street, San Francisco 8
GArfield 1-0460

Latham Square Bldg., Oakland 12
GLencourt 1-8731
Heartwell Bldg., Long Beach
Phone 632-29

no excitation . . .

no wakefulness

Because the vasoconstrictor of Benzedrex Inhaler is a derivative of cyclohexane—not a derivative of benzene as is ephedrine—it produces almost no central nervous stimulation.

Benzedrex Inhaler may therefore be freely used even by those individuals in whom such ephedrine-like effects as insomnia, restlessness, or nervousness are frequently encountered.

Benzedrex Inhaler provides more rapid shrinkage, more complete shrinkage, and more prolonged shrinkage. Its clean, medicinal odor assures your patients' cooperation between their treatments in your office.

Smith, Kline & French Laboratories, Philadelphia

Benzedrex Inhaler

the best inhaler ever developed

'Benzedrex' T.M. Reg. U.S. Pat. Off.

DIABETIC DOCTORS PROVE ONE CAN LIVE LONG AND REMAIN ACTIVE

A diabetic person can take hope from the personal experiences of physicians suffering from the same disease. Diabetic doctors—and these are estimated at about one out of every 40—have proved that by adherence to a proper regimen they can conduct their normal activities and look forward to a life expectancy almost as long as that of the average physician.

This optimistic outlook was presented by Dr. Robert F. Bradley of Boston in an article in a recent issue of the *Journal of the American Medical Association.* Dr. Bradley, associated with the George F. Baker Clinic of the New England Deaconess Hospital, made a study of the records of 475 diabetic physicians consulting the Joslin group between 1898 and 1947.

(The Joslin group is headed by Dr. Elliott P. Joslin, clinical professor of medicine emeritus at the Harvard School of Medicine, Boston, and one of the world's outstanding specialists in diabetes.)

From this study, Dr. Bradley concluded that the average diabetic physician will live almost as long as the average physician and will slightly outlive his nonmedical contemporary. He also concluded that it is worth while for a diabetic person to enter medical school if (1) he shows none of the degenerative complications of diabetes; (2) he demonstrates his ability and willingness to control his diabetes, and (3) his duration of diabetes to time of entrance is less than 15 years. Under the same conditions, a medical school need have no hesitancy in receiving such a student, he said.

"Once embarked in the study of medicine, the physician in whom diabetes develops need not give up his chosen profession," he added. "He should adhere to the hygienic practices that will keep him in the best physical and mental condition, in order to prevent renal complications and postpone as long as possible the lethal effects of cardiovascular disease."

Dr. Bradley cited the results of medical advance. In the era before treatment with insulin (1898-1922), the average age at death of diabetic physicians was 56.9 years. In 1948, it was 67.3 years. The duration of diabetes in fatal cases rose from 8.5 years in the pre-insulin period to 15 years in 1948.

Diabetic coma, which at one time accounted for 35.3 per cent of all deaths in stricken physicians, has practically disappeared as a cause of death. Infections and gangrene, likewise, have almost disappeared as a cause of death.

He gave a number of examples of continued activity although diabetes has been of long standing. A 68-year-old physician who has had the disease for 41 years carries on a limited practice. A 61-year-old doctor who has had diabetes for 35 years reported he was conducting an active practice. His insulin dosage has been approximately 70 units daily since he first began taking it in 1922.

THE POTTENGER SANATORIUM and CLINIC

For Diseases of the Chest *Monrovia, California*

AN INSTITUTION FOR DIAGNOSIS AND THERAPY
(Established 1903)

CHOICE rooms and bungalows. Rates moderate and include routine medical and nursing services, interim physical, X-ray and laboratory examination, ordinary medicines and pneumothorax. A charge is made for the first complete examination.

In the foothills of the Sierra Madre Mountains, thirty-five miles from the ocean. Surrounded by beautiful gardens.

Close medical supervision. Aside from tuberculosis, special attention is given to asthma, bronchiectasis, lung abscess and kindred diseases. Separate intitution for children.

For particulars address:

THE POTTENGER SANATORIUM AND CLINIC • Monrovia, Calif.

Los Angeles Neurological Institute

Member—AMERICAN HOSPITAL ASSOCIATION,
ASSOCIATION OF WESTERN HOSPITALS

Registered—AMERICAN MEDICAL ASSOCIATION

OPEN HOSPITAL

For Hospitalization and Ambulatory Shock Therapy for Mental and Nervous Disorders

D. M. OLKON, M.D.
G. J. WAYNE, M.D. } *Directors*

Centrally Located in Los Angeles

5227 Santa Monica Blvd.
NOrmandy 1-7059

Advertisers in your OFFICIAL JOURNAL *will appreciate requests for literature*

conforming to the pattern of human milk . . .

BREMIL—newest product of Borden research—introduces a significant advance in infant nutrition.

BREMIL is a completely modified milk in which nutritionally essential elements of cow's milk have been adjusted in order to supply the nutritional requirements of infants deprived of human milk.

In **BREMIL** the calcium-phosphorus ratio is adjusted to a minimum of 1½ parts calcium to 1 part phosphorus. Gardner, Butler, et al., state: "Relative to human milk, cow's milk has a low Ca:P ratio . . ."[1] Nesbit states: "Tetany of the newborn is now recognized as a definite entity . . . and often accompanied by an increased phosphorus and lowered blood calcium."[2]

BREMIL is fortified with ascorbic acid (vitamin C) not only for its antiscorbutic properties but also for its value in preventing megaloblastic anemia.[3]

BREMIL has the fatty acid pattern of human milk . . . a scientific blending of three carefully selected vegetable oils (palm, coconut, peanut) which compares with human milk fat in physical, chemical and metabolic characteristics.

BREMIL has the amino acid pattern of human milk . . . with methionine added thereby "improving the biologic value of milk proteins."[4]

BREMIL is easily digested as it forms a soft flocculent curd of small particle size comparable to human milk.

BREMIL supplies the same carbohydrate (lactose) as breast milk . . . no additional carbohydrate is needed in the preparation of **BREMIL** formulas.

In **BREMIL** vitamins A and D, thiamine, riboflavin, niacin, and ascorbic acid have been *standardized at or above* the recommended daily allowances for infants as established by the National Research Council (revised 1948).

BREMIL is available in drugstores in 1 lb. cans.

Complete information and a trial supply may be obtained upon request.

1. Gardner, L. I.; MacLachlan, E. A.; Pick, W.; Terry, M. L., and Butler, A. M.: *Pediatrics* 5:228, 1950.
2. Nesbit, H. T.: *Texas State J. M.* 38:551, 1943.
3. May, C. D., et al.: *Bull. Univ. Minnesota Hospitals* 21:208, 1950.
4. Block, R. J.: *J. Am. Dietetic Assn.* 25:937, 1949.

wdered infant food

Prescription Products Division
The **BORDEN** *Company*
350 Madison Avenue, New York 17, N. Y.

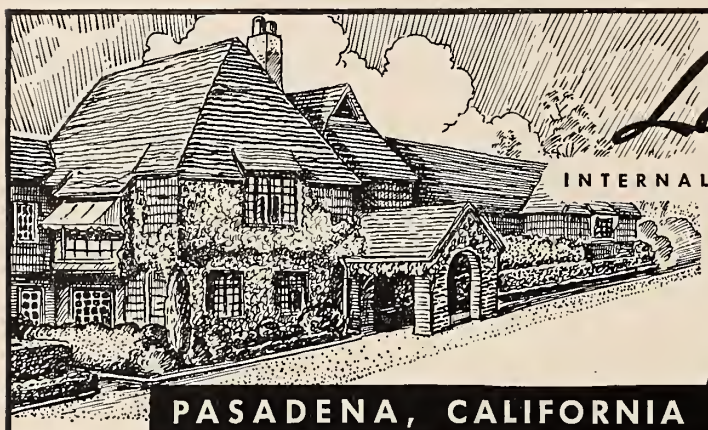
CORTISONE, ACTH FOUND HELPFUL IN TREATING SERIOUS SKIN DISEASE

Good results are reported by a group of doctors at Mount Sinai Hospital in New York who have used cortisone and ACTH to treat patients critically ill with acute disseminated lupus erythematosus.

Writing in a recent issue of *Archives of Internal Medicine*, published by the American Medical Association, Drs. Louis J. Soffer, Marvin F. Levitt and George Baehr caution, however, that "although these agents are capable of inducing clinical remissions they do not effect a cure of the underlying disease process."

Of the 14 patients treated with the hormones, 11 responded to the extent that the acute evidence of the disease promptly subsided and the patient could move about more comfortably. However, the diseased cells, the anemia, the abnormal kidney findings and other characteristics of the disease persisted. The report continues:

"The treatment of acute disseminated lupus with cortisone or ACTH may be complicated by frequent untoward side-effects. However, with careful clinical observation these effects may be minimized and corrected and therapy continued. The exacerbations which follow attempts to discontinue therapy indicate that long-range or even permanent treatment may be necessary to control the disease."



Las Encinas
SANITARIUM
INTERNAL MEDICINE • NERVOUS DISORDERS

MEDICAL STAFF
CHARLES W. THOMPSON, M.D., F.A.C.P.
DIRECTOR
CLIFTON H. BRIGGS, M.D., F.A.C.S.
ASSOCIATE DIRECTOR
ETHEL FANSON, M.D.
DOUGLAS R. DODGE, M.D.
CARLOS F. SACASA, M.D.
HERBERT A. DUNCAN, M.D.
KENNETH P. NASH, M.D.
STEPHEN SMITH, III, M.D.

PASADENA, CALIFORNIA

. . . FOOT ACTION!

THE mechanical foot action of Hanger Artificial Legs allows a close approximation of natural walking for their wearers. The forward and backward motion and rubber cushions absorb shock and give the flexibility of motion so important in maintaining an even stride. This is one more example how the goal of Hanger design and development is to allow the amputee to resume life's normal functions. Throughout, Hanger Limbs are constructed of a few parts simply assembled to reduce unnecessary breakdowns and repairs.

HANGER ARTIFICIAL LIMBS
608 Hayes Street
San Francisco 2, California

CROCKER FIRST NATIONAL BANK
ESTABLISHED 1870
CALIFORNIA'S OLDEST NATIONAL BANK

Automobile Loans at Bank Rates

We invite you to compare *Bankway* rates before you finance the purchase of your next car. There are no hidden "extra" charges. You will know the exact loan costs in advance of delivery. Use Crocker *Bankway* Credit to finance your automobile.

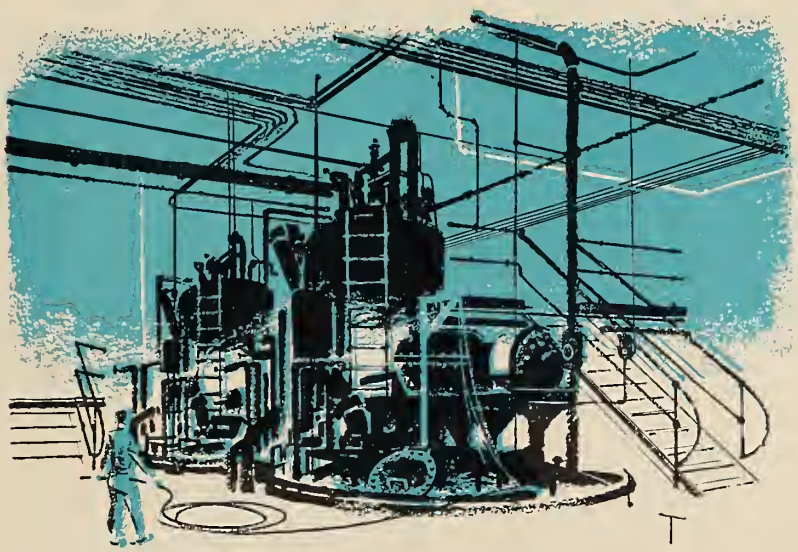
CROCKER FIRST NATIONAL BANK
1 Montgomery Street, San Francisco
13th at Franklin Street, Oakland

Member F. D. I. C.

AUREOMYCIN

Lederle

Effective against many bacterial and rickettsial infections, as well as certain protozoal and large viral diseases.



The isolation of crystalline aureomycin from the fermentation mash is an intricate task. It must be done in such a way that inactivation or loss of the antibiotic is minimized. In addition, the removal of impurities must be so complete that the finished product will cause a minimum of undesirable side-reactions. For this purpose, highly specialized technical equipment is employed, in order to effect liquid-solid and liquid-liquid extractions. Vacuum concentration and crystallization are carried out in glass-lined tanks, to avoid heavy metal contamination. The temperature and degree of vacuum are automatically controlled by means of precision instruments and the purification of the product is carefully followed by laboratory tests.

Aureomycin is now available in a number of convenient forms, for use by mouth and in the eye. New forms of this antibiotic of unsurpassed versatility are constantly being brought out.

Capsules: *Bottles of 25 and 100, 50 mg. each capsule. Bottles of 16 and 100, 250 mg. each capsule.*
Ophthalmic: *Vials of 25 mg. with dropper; solution prepared by adding 5 cc. of distilled water.*

LEDERLE LABORATORIES DIVISION AMERICAN CYANAMID COMPANY 30 Rockefeller Plaza, New York 20, N.Y.

Advertisers in your OFFICIAL JOURNAL *will appreciate requests for literature*

CLASSIFIED ADVERTISING

(Continued from Page 84)

FOR RENT, LEASE OR SUBLEASE

FOR SUBLEASING, 6½ years with 5-year option. Doctors leaving for service. Office comprising 4 suites, approximately 4,000 sq. ft., includes 23 rooms, 4 toilets, 3 dressing cubicles, available immediately. Ideal location in Pomona. Away from parking meters, near hospital, large parking lot. Fully improved and ready for use. Air-conditioned throughout. Equipment including 200 MA x-ray machine, large autoclave, surgical sinks, complete EENT unit, office equipment, medical and reception room furniture may be purchased if proper arrangements made. Minor surgery, recovery room and resuscitator. Recently decorated in modern style. Ideal for group or for four to five individual doctors. Drs. Ingram, Weinstein & Zager, 894 North Garey, Pomona, LYcoming 2-1277.

FOR RENT: New office building completely equipped including x-ray. Unopposed practice. Frank E. Sohler, Jr., M.D., 109 East First Street, Cloverdale, California.

OFFICE AND/OR EQUIPMENT FOR SALE, RENT, OR LEASE—Located in southern California rural area forty miles from San Diego. Hospital facilities good, open staff. Population 2,000, drawing area 6,500. Box 30,025, California Medicine.

FINE MEDICAL OFFICE FOR RENT in the heart of business district of Wilmington, California, (35 minutes from Los Angeles, 12 minutes from Long Beach). M.D. was established on premises for 20 years and conducted a very successful practice. Center of large industrial area, also fishing canneries, oil refineries, shipping, etc. Rent very reasonable. Five large rooms space for laboratory-X-ray, Emergency Hospital, etc. J. M. Soss, 37 Pine Ave., Long Beach 2, Calif.

LARGE OFFICE FOR LEASE in established medical building in Santa Clara. Particularly good location for qualified industrial or general surgeon. Large reception room, consultation room, and three large examination or treatment rooms. Inquire F. P. Rutherford, M.D., 983 Main Street, Santa Clara, Calif.

FOR SALE

FOR SALE: The medical laboratory of the late Dr. Marion H. Lippman, San Francisco. Frozen section apparatus, all equipment and inventory included. Excellent opportunity for young pathologist. Reasonably priced. Write Box 30,030, California Medicine.

A REQUEST for CHANGE OF ADDRESS

...must reach us at least three weeks before the date of issue with which it is to take effect. Duplicate copies cannot be sent to replace those undelivered through failure to send such advance notice. With your new address be sure to send us the old one, enclosing, if possible, your address label from a recent copy.

CALIFORNIA MEDICINE
Room 2009
450 Sutter Street San Francisco 8

QUESTIONS ON DRAFT LAW POUR IN

The A.M.A. Council on National Emergency Medical Service is being deluged with letters from doctors who are puzzled over various aspects of the draft law.

Dr. Robert M. Hall, council secretary, set down answers to some of the draft questions puzzling doctors before and after registration day:

Certain physicians, holding a degree of Bachelor of Medicine or of Doctor of Medicine, are presently liable for actual induction into the Army as recruits if they do not hold reserve commissions as medical officers in one of the armed services. It makes no difference whether or not they are in practice.

Non-veteran physicians, under 26, were eligible for the draft before passage of the recent amendment to the Selective Service Act.

As a result of this amendment physicians who were deferred from service and who thus continued their educations during World War II, whether at government expense or their own expense, and who have not served since then on active duty as medical officers for a period of 21 months, are subject to active duty as medical officers for 21 months.

Whether or not these physicians will be inducted into the Army as recruits or whether they will be deferred from service is entirely up to their local draft boards. Selective Service does not at present recommend to local boards that they defer physicians until the completion of 12 months of internship.

These physicians, in other words, must apply for commissions as reserve officers or run the risk of induction as recruits. A physician who receives his actual induction notice may not then apply for a reserve commission and must enter service just as any other inductee. This does not apply to the notice to report for a pre-induction physical examination. Once he has been inducted into the Army as an enlisted man he may apply for a commission, but he will not be eligible for the extra $100 a month that is paid to all other medical officers.

None of the three military departments orders its reserve medical officers to active duty until they have completed at least 12 months of internship. In addition, reserve officers in their senior year of residency training will not be called to active duty until they complete their training, if at all possible.

It is rarely possible at this late date for a physician to apply for a reserve commission in the service of his choice.

Physicians now eligible for the draft who do not pass their physicals for commissions as reserve officers will not be inducted into the Army at a later time.

It is now possible to apply for a reserve commission without applying for active duty at the same time.

It is also possible now to apply for a reserve commission at the headquarters of military or naval districts, Army areas or numbered Air Forces.

Whether ordered to active duty as a medical officer or inducted for service as an enlisted man, the period of service is the same—21 months.

George F. Lull, M.D.,
Secretary and General Manager, A.M.A.

Due to its extremely wide antibacterial spectrum and the minimum chance of the development of resistant strains, many physicians find 'Eskacillin-Sulfas' the ideal therapy when immediate medication is necessary and lack of either time or laboratory facilities prevents exact determination of the specific organism involved.

ach teaspoonful (5 cc.) of 'Eskacillin-Sulfas' contains:

Crystalline potassium penicillin G	100,000 U.
Sulfadiazine	0.167 Gm.
Sulfamerazine	0.167 Gm.
Sulfamethazine	0.167 Gm.

'ESKACILLIN-SULFAS'

the original presentation of penicillin and the sulfonamides in fluid form

Available in 2 fl. oz. bottles. *Smith, Kline & French Laboratories, Philadelphia*

why 'Eskacillin-Sulfas' is in fluid form:

We concluded—after weighing every possibility—that 'Eskacillin-Sulfas' should be a *fluid* for the following reasons:

1. Tablets are impractical because the bulky nature of the sulfonamides makes it virtually impossible to manufacture a small, easily-swallowed tablet.
2. The fluid form assures more rapid attainment of therapeutic blood levels.
3. A palatable fluid is the ideal form for children and for the many adults who balk at, or have difficulty with, tablet medication.

'Eskacillin-Sulfas' is so pleasant tasting your patients will find it easy to take whatever amount you prescribe—and, because of its fluid form, you will find it easy to adjust the dosage.

Attention

COUNTY SOCIETY SECRETARIES

Please send in to

CALIFORNIA MEDICAL ASSOCIATION OFFICE:

Names and Addresses of newly elected County Society Officers for 1951

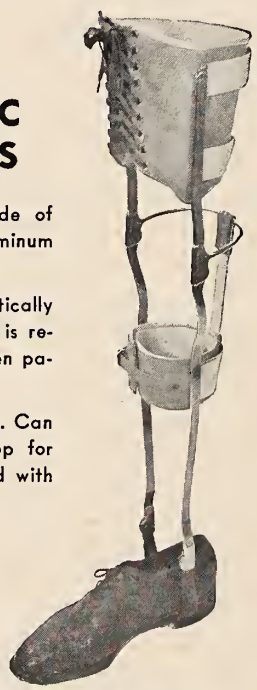
for . . .

ORTHOPEDIC APPLIANCES

This long leg brace is made of stainless steel and strong aluminum alloy.

The knee joints lock automatically when leg is extended. Lock is released by edge of chair when patient sits.

Ankle joint is at action level. Can have spring lift or 90° stop for drop foot. Stirrup is covered with leather to match shoe.



△

Established 1893

"Two Generations of Appliance Makers"

△

M. J. BENJAMIN

501-518 Paramount Theatre Bldg.

Two Elevator Entrances

323 WEST 6th ST. 536 SO. HILL ST.

Phone MAdison 1593 • LOS ANGELES

NEWS FROM A.M.A. WASHINGTON OFFICE

Defense Department Sets Up Medical Regulating Office. A new Armed Service Medical Regulating Office to allocate hospital beds in this country has been set up in Defense Department. Working directly under the Joint Chiefs of Staff, the office will assign beds for patients evacuated from overseas and for patients in this country. The office will consist of one representative of each of the services with the office of Chief rotating among the three. All regulations prepared by the office will be cleared by the Joints Chiefs and Dr. Meiling's office but issued by the individual services to avoid conflicting regulations. Other duties of the office include deciding which beds shall be available for special care in military and other hospitals; determining hospitals for final definitive treatment of patients; selecting certain installations as debarkation hospitals; prescribing priority for evacuation for overseas patients and insuring proper bed facilities for them; establishing standardized procedures for operation of this phase of military medical care.

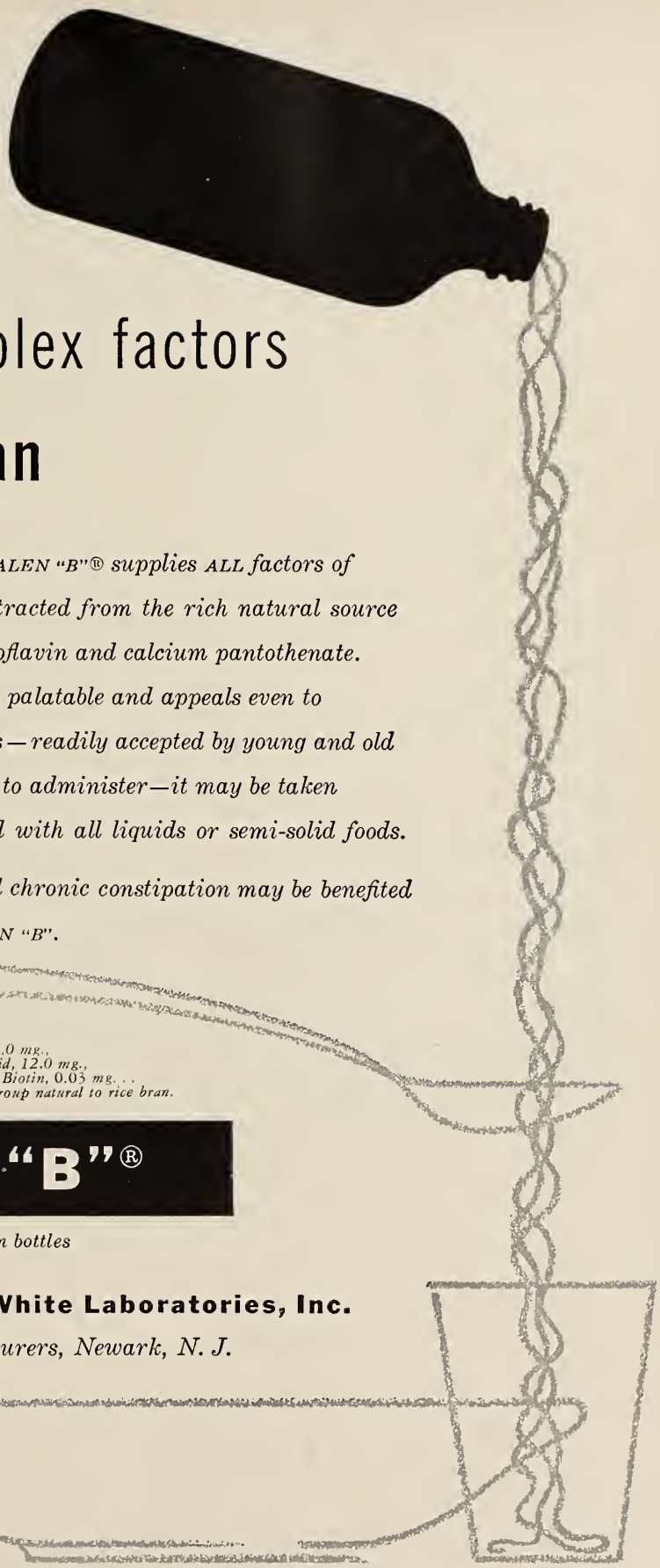
✓ ✓ ✓

Military Notes: New preventive medicine units, consisting of six officers, one warrant officer and 59 enlisted men, are being organized by Army for duty in Far East. Each unit will be responsible for malaria control and survey, inspection of field sanitary conditions and control of insect-borne, waterborne and other diseases. . . . Dr. Meiling, speaking before the Association of Military Surgeons, warned against building up too high a ratio of physicians to troop strength. There were six physicians per thousand in 1945. If this ratio is followed now, he said, 18,000 physicians would have to be in uniform to care for the projected military force of about 3,000,000.

✓ ✓ ✓

Navy Changes Policy on Accepting Volunteers in Draft-Eligible Categories. While Army has stated it will offer reserve commissions to all men in draft-eligible categories at the time of their physical examination or any time prior to induction, Navy has clamped down on its reserve commission policy. No former ASTP with less than 21 months' active duty (former Army men in draft-eligible categories) will be accepted by Navy. Former V-12's (Navy) and those deferred to continue their education during World War II may still volunteer for Navy reserves. Navy says it will continue to call to duty V-12's in its unorganized reserves as well as reserves in organized units that are called to duty with their units. However, next January, when Navy gets back its 570 V-12 reserves loaned to Army, these doctors will remain on duty with Navy to replace older reserves with World War II service. The more experienced reserves will be released on the basis of the amount of time spent in service during the last war.

Incidentally, the 922 men Army has requested from Selective Service will merely replace the 570 Navy men on Army duty and 300 of its reserves Army called up on mandatory orders.



All the B complex factors of **rice bran**

In palatable liquid form GALEN "B"® *supplies* ALL *factors of the vitamin B complex extracted from the rich natural source* rice bran — *plus added riboflavin and calcium pantothenate. Easy-to-take,* GALEN "B" *is palatable and appeals even to patients with finicky tastes — readily accepted by young and old patients alike. Convenient to administer — it may be taken undiluted or can be mixed with all liquids or semi-solid foods.*

• *Many cases of functional chronic constipation may be benefited by administration of* GALEN "B".

Each fluid ounce of Galen "B" contains not less than: Thiamine (B_1), 4.5 mg., Riboflavin (B_2), 4.5 mg., Niacin, 60.0 mg., Pyridoxine (B_6), 4.5 mg., Pantothenic Acid, 12.0 mg., Inositol, 225.0 mg., Choline, 300.0 mg., Biotin, 0.03 mg. . . plus all other factors of the B complex group natural to rice bran.

GALEN "B"®

Supplied: 8 oz., pint and gallon bottles

Rare-Galen Division of **White Laboratories, Inc.**
Pharmaceutical Manufacturers, Newark, N. J.

BOOKS RECEIVED

ADVANCES IN INTERNAL MEDICINE—Volume IV—Editors William Dock, M.D., Long Island College of Medicine, Brooklyn, N. Y.; and I. Snapper, M.D., The Mount Sinai Hospital, New York. Associate Editors Tinsley R. Harrison, M.D., Chester S. Keefer, M.D., Warfield T. Longcope, M.D., and J. Murray Steele, M.D. The Year Book Publishers, Chicago, 1950. 549 pages. $10.00.

ANXIETY—Edited by Paul H. Hoch, M.D., New York State Psychiatric Institute; College of Physicians and Surgeons, Columbia University; and Joseph Zubin, Ph.D., New York State Psychiatric Institute; Department of Psychology, Columbia University. The Proceedings of the 39th Annual Meeting of the American Psycho-pathological Association, held in New York City, June, 1949. 254 pages. Grune and Stratton, New York, 1950. $4.50.

BRONCHOESOPHAGOLOGY—Chevalier Jackson, M.D., Sc.D., LL.D., F.A.C.S., Honorary Professor of Bronchoesophagology and Laryngeal Surgery, Temple University; and Chevalier L. Jackson, M.D., M.Sc., F.A.C.S., Professor of Bronchoesophagology and Laryngeal Surgery, Temple University. Illustrated. 366 pages. W. B. Saunders Company, Philadelphia, 1950. $12.50.

CHILD PSYCHIATRY IN THE COMMUNITY — A Primer for Teachers, Nurses, and Others Who Care for Children—Harold A. Greenberg, M.D., Senior Psychiatrist, Institute for Juvenile Research, Chicago, Assistant Professor of Criminology, College of Medicine, University of Illinois; in collaboration with Julian H. Pathman, Ph.D., Chief Psychologist, Downey Veterans Administration Hospital; Helen A. Sutton, R.N., B.A., B.S., and Marjorie M. Browne, B.A., M.A. 296 pages. G. P. Putnam's Sons, New York, 1950. $3.50.

DIFFERENTIAL DIAGNOSIS OF INTERNAL DISEASES — Clinical Analysis and Synthesis of Symptoms and Signs—Julius Bauer, M.D., F.A.C.P., Clinical Professor of Medicine, College of Medical Evangelists, Los Angeles. 866 pages. Grune and Stratton, New York, 1950. $12.00.

EMERGENCIES IN MEDICAL PRACTICE—Edited by C. Allan Birch, M.D., F.R.C.P., Physician, Chase Farm Hospital, Enfield. With 131 illustrations, 8 in full color. 564 pages. Second Edition. The Williams and Wilkins Company, Baltimore, 1950. $5.50.

EXCEPTIONAL CHILD IN INFANCY AND EARLY CHILDHOOD, THE—Proceedings of the Annual Spring Conference on Education and the Exceptional Child Under the Auspices of the Child Research Clinic of The Woods Schools at Langhorne, Pennsylvania, May, 1950. 6 papers, 48 pages. No charge.

FREUD: DICTIONARY OF PSYCHOANALYSIS—Edited by Nandor Fodor, Associate of the Association for the Advancement of Psychotherapy, and Frank Gaynor, Co-Author of the "Dictionary of Industrial Psychology." Philosophical Library, New York. 208 pages, 1950. $3.75.

HEALTH INSTRUCTION YEARBOOK—1950—Compiled by Oliver E. Byrd, Ed.D., M.D., F.A.P.H.A., Professor of Health Education, and Director, Department of Hygiene, School of Education, Stanford University. Foreword by Jesse Feiring Williams, M.D., Sc.D., Professor Emeritus, Teachers College, Columbia University, 270 pages. Stanford University Press, Stanford, California, 1950. $3.50.

HOUSE STAFF MANUAL—LOS ANGELES COUNTY HOSPITAL—David Hamm, Jr., M.D., Editor-in-Chief; Raymond D. Goodman, M.D., Ernest T. Smith, M.D., and Robert H. Van Scoyoc, M.D., Assistant Editors. Sixth Edition. Los Angeles County Hospital Staff, 1950. $4.12.

LABORATORY MANUAL FOR PHARMACOGNOSY—Edward P. Claus, Ph.D., Professor of Pharmacognosy, University of Pittsburgh, School of Pharmacy. Second Edition. 111 pages. The C. V. Mosby Company, St. Louis, 1950. $3.25.

MANSON'S TROPICAL DISEASES—A Manual of the Diseases of Warm Climates—Edited by Sir Philip H. Manson-Bahr, C.M.A., D.S.O., M.A., M.D., D.T.M., and H. Cantab, F.R.C.P. (Lond.), Past President of the Royal Society of Tropical Medicine and Hygiene, and the Medical Society of London. Thirteenth Edition. With 17 color plates, 9 halftone plates, 412 figures in the text, 8 maps and 29 charts, 1,136 pages. The Williams and Wilkins Company, Baltimore, 1950. $9.00.

MEDICAL JURISPRUDENCE AND TOXICOLOGY—John Glaister, J.P., D.Sc., M.D., F.R.S.E.—of the Inner Temple, Barrister-at-Law, Regius Professor of Forensic Medicine, University of Glasgow. Ninth Edition. With two hundred and thirty-four illustrations, 88 in color. 755 pages. The Williams and Wilkins Company, Baltimore, 1950. $7.00.

METHODS IN MEDICAL RESEARCH — Volume 3—Ralph W. Gerard, Editor-in-Chief. The Year Book Publishers, Inc., Chicago, 1950. 312 pages. $7.00.

METHODS IN MEDICINE—The Manual of the Medical Service of George Dock, M.D., Sc.D., Formerly Professor of Medicine, Washington University School of Medicine; Formerly Physician-in-Chief, Robert A. Barnes Hospital, St. Louis. A Comprehensive Outline for Clinical Investigation, Management and Treatment of Patients with Various Medical Disorders—George R. Herrman, M.D., Ph.D., Professor of Medicine, University of Texas Medical Branch at Galveston. Second Edition, Completely Revised. 488 pages. The C. V. Mosby Company, St. Louis, 1950. $7.50.

PHYSICIANS FEDERAL INCOME TAX GUIDE AND SIMPLIFIED ACCOUNTING RECORD — Hugh Campbell and James B. Liberman. For the preparation of 1950 returns and 1951 estimates. Doniger and Raughley, Inc., Great Neck, New York, 1950. $2.50.

PRINCIPLES OF GENERAL PSYCHOPATHOLOGY—An Interpretation of the Theoretical Foundations of Psychopathological Concepts — Seigfried Fischer, M.D., Clinical Instructor in Psychiatry, University of California, formerly Professor of Psychiatry and Neurology, University of Breslau. The Philosophical Library, New York, 1950. 327 pages. $4.75.

PROGRESS IN GYNECOLOGY—Volume II—Edited by Joe V. Meigs, M.D., Clinical Professor of Gynecology, Harvard Medical School; Chief of Staff of the Vincent Memorial Hospital, the Gynecological Service of the Massachusetts General Hospital; and Somers H. Sturgis, M.D., Clinical Associate in Gynecology, Harvard Medical School; Assistant Surgeon, Massachusetts. Grune & Stratton, New York, 1950. $9.50.

REGIONAL ORTHOPEDIC SURGERY — Paul C. Colonna, M.D., Professor of Orthopedic Surgery, University of Pennsylvania Medical School, 706 pages. W. B. Saunders Company, Philadelphia, 1950. $11.50.

TEXTBOOK OF X-RAY DIAGNOSIS, A—Second Edition, Volume III, by British Authors in Four Volumes. Edited by S. Cochrane Shanks, M.D., F.R.C.P., F.F.R., Director, X-Ray Diagnostic Department, University College Hospital, London; and Peter Kerley, M.D., F.R.C.P., F.F.R., D.M.R.E., Director, X-Ray Department, Westminster Hospital; Radiologist, Royal Chest Hospital, London. 830 pages with 694 illustrations. W. B. Saunders Company, Philadelphia, 1950. $18.00.

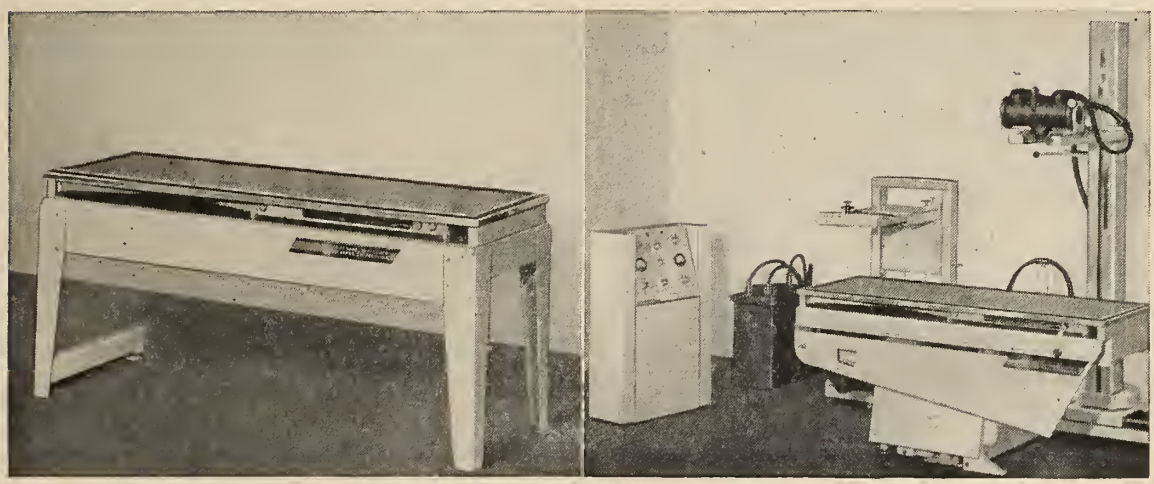
THROMBOEMBOLIC CONDITIONS AND THEIR TREATMENT WITH ANTICOAGULANTS—Charles D. Marple, M.D., Assistant Clinical Professor of Medicine; University of California School of Medicine, San Francisco; and Irving S. Wright, M.D., Professor of Clinical Medicine, Cornell University Medical College. Charles C. Thomas, Publisher, Springfield, Illinois, 1950. 418 pages. $8.50.

TYPHUS FEVER IN CALIFORNIA, 1916-1948, Inclusive—Issued by the State of California Department of Public Health, San Francisco, 1950. 99 pages.

WHEN MINDS GO WRONG — A Simple Story of the Mentally Ill — Past, Present and Future — John Maurice Grimes, M.D., twenty years a psychiatrist, four years a staff-member of the Council on Medical Education and Hospitals of the American Medical Association. Published by the Author, 5209 S. Harper Avenue, Chicago 15, Illinois, 1950. $5.00.

1950 YEAR BOOK OF OBSTETRICS AND GYNECOLOGY (August 1949 - July 1950)—Edited by J. P. Greenhill, B.S., M.D., F.A.C.S., Professor of Gynecology, Cook County Graduate School of Medicine. The Year Book Publishers, Inc., Chicago, 1950. 570 pages. $5.00.

GE MAXICON meets the medical profession's long-felt need for x-ray equipment developed to grow with an expanding practice, providing just the x-ray facility required . . . unit by unit as needed!



From this . . . to this . . . in a few easy steps!

Bucky table to motor-driven combination unit! Comprised of a number of components that can be assembled in various combinations — the Maxicon series have a wealth of utility wherever diagnostic x-ray is employed. The Maxicon covers the range of diagnostic x-ray apparatus from the horizontal x-ray table to the 200-ma, two-tube, motor-driven combination unit.

Check the remarkable flexibility of the Maxicon. Discover what it can do for you. Ask your GE representative or write

GENERAL ELECTRIC X-RAY CORPORATION

Direct Factory Branches:
LOS ANGELES — 550 N. Western Avenue SAN DIEGO — 521 Grape Street
SAN FRANCISCO — 1269 Howard Street

Ingraloids

THEX

Parenteral

Now Available in Addition to Our High Potency Solution

Lyophilized Form
(vacuum dried)
Item No. 252
Per Vial:

Thiamine HCl	100 Mg.
Riboflavin	10 Mg.
Pyridoxine HCl	10 Mg.
Ca. Pantothenate	50 Mg.
Niacinamide	250 Mg.
Ascorbic Acid	500 Mg.

Restore solution by adding not less than 5 cc. of "Water for Injection USP" before administration.

Supplied—5 cc. Vials
in boxes of one, six
and twenty-five vials

For *Oral* Vitamin B Complex Therapy —THEX—hi potency Capsules.

* Ingraloid is a trade mark, registered in the U. S. Patent Office, of Ingram Laboratories, Inc., used to designate a brand of sterile medicinals for parenteral administration.

For further information and samples, write to

PROFESSIONAL SERVICE DIVISION

INGRAM

INCORPORATED

330 FRONT STREET, SAN FRANCISCO 11

A.M.A. TRUSTEES APPROPRIATE HALF MILLION FOR SCHOOL AID

Responding to the challenge voiced by its president, Dr. Elmer L. Henderson of Louisville, Ky., in his address to the House of Delegates recently—that the medical profession take the initiative in raising private financing for hard-pressed medical schools, rather than seek federal subsidies for medical education—the American Medical Association has appropriated a half million dollars as the nucleus of a fund to be raised for the aid of medical schools throughout the nation.

The half million dollar contribution was voted unanimously by the A.M.A. Board of Trustees and was announced by its chairman, Dr. Louis H. Bauer of Hempstead, New York.

Dr. Bauer's statement follows:

"The Board of Trustees of the American Medical Association is pleased to announce to the House of Delegates that it has appropriated a half million dollars out of its National Education Campaign Fund, which was raised to defend medical freedom, for the aid and support of medical schools which are in need of additional financing.

"This fund will be given to the medical schools for their unrestricted use in their basic training of future physicians.

"This appropriation to aid the medical schools has been made possible by the widespread public cooperation which the profession has received from the American people in its campaign against compulsory health insurance. The fight against socialized medicine must go on until this issue has been clearly and finally resolved, but the pressure for regimentation of the medical profession has greatly lessened, due to the magnificent public support which we have received.

"The Board of Trustees, therefore, feels that it is keeping faith with the American people, who have given medicine such a splendid vote of confidence, when it contributes this amount to the medical schools of the nation.

"There is growing public awareness that federal subsidy has come to be a burden, not a bounty, for it is bringing intolerable increases in taxation, and is dangerously increasing federal controls over our institutions and the lives of our people.

"American medicine feels very strongly that it should not seek federal aid for medical schools, until all other means of financing have been exhausted. The Board of Trustees announced yesterday its belief that funds for this purpose could be obtained from private sources—and as practical evidence of our sincerity of purpose, this appropriation has been made as the nucleus of a fund which we hope will be greatly augmented by contributions from many other sources.

"The Board hopes that this action will become a stimulus to other professions, industries, businesses, labor groups and private donors to contribute to this very important cause of protecting and advancing the interests of medical education and the public health.

"The American Medical Association urges all its

(Continued on Page 14)

Just 4 small doses provide

'Round-the-clock relief for allergic patients

Long-lasting relief[1] . . . low milligram dosage[2] with few side actions. These are advantages you *expect* in a professional antihistamine for use in difficult allergies, or for patients who have not responded to other drugs. These advantages are *combined* in Decapryn—the antihistamine that provides a good night's rest and a good day's work for allergic patients.

1 "Symptoms were relieved from 4 to 24 hours after the administration of a single dose of Decapryn—" . . . Sheldon, J.M. Et al: Univ. Mich. Hosp. Bull. 14:13-15 (1948)

2 "It was found that 12.5 mg. could be given during the day with comparatively few side reactions and yet maintain good clinical results—" . . . MacQuiddy, E.L.: Neb. State M.J. 34:123 (1949)

DECAPRYN®

The long-lasting, low-dosage prescription antihistamine

DECAPRYN (DOXYLAMINE) SUCCINATE

Merrell 1828
CINCINNATI • U.S.A.

Available on prescription only, as pleasant-tasting liquid, or palatable tablets

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

Advertisers in your OFFICIAL JOURNAL *will appreciate requests for literature*

A.M.A. TRUSTEES APPROPRIATE HALF MILLION FOR SCHOOL AID

(Continued from Page 10)

members to contribute individually to this cause, and we hope that doctors will take the lead in securing contributions from other sources.

"Furthermore, the American Medical Association invites attention to the fact that it has been spending about a quarter of a million dollars a year for many years past to advance medical education through its Council on Medical Education and Hospitals and other departments. This appropriation, voted today, for an entirely new purpose, is in addition to nearly $285,000 already budgeted for this work during 1951.

"The nation's medical schools are of the greatest importance to every American citizen and the A.M.A. has had the advancement of their standards as one of its main objectives for over 100 years. The Board of Trustees feels that if all other organizations and individuals will render support of this worthy cause in accordance with their financial ability that not only will the financial security of medical schools be assured, but that their freedom will be protected."

ADVERTISED LINES ARE MOST OFTEN REMEMBERED WHEN ORDERS ARE BEING PLACED

THE POTTENGER SANATORIUM and CLINIC

For Diseases of the Chest *Monrovia, California*

AN INSTITUTION FOR DIAGNOSIS AND THERAPY
(Established 1903)

CHOICE rooms and bungalows. Rates moderate and include routine medical and nursing services, interim physical, X-ray and laboratory examination, ordinary medicines and pneumothorax. A charge is made for the first complete examination.

In the foothills of the Sierra Madre Mountains, thirty-five miles from the ocean. Surrounded by beautiful gardens.

Close medical supervision. Aside from tuberculosis, special attention is given to asthma, bronchiectasis, lung abscess and kindred diseases. Separate intitution for children.

For particulars address:

THE POTTENGER SANATORIUM AND CLINIC • Monrovia, Calif.

WHEN YOU THINK "**COLLECTIONS**"

Think—"**THE DOCTORS BUSINESS BUREAU**"

THE OLDEST...THE LARGEST...THE BEST

AND

YOU CANNOT DO BETTER THAN THE BEST

OUR MOTTO:
"Persuasion Prevails Where Force Fails"

THE DOCTORS BUSINESS BUREAU

Call or Write Your Nearest Office:

Spreckels Bldg., Los Angeles 14
TRinity 1252
153 Kearny Street, San Francisco 8
GArfield 1-0460

Latham Square Bldg., Oakland 12
GLencourt 1-8731
Heartwell Bldg., Long Beach
Phone 632-29

Advertisers in your OFFICIAL JOURNAL *will appreciate requests for literature*

FUNDAMENTAL

Basic disease manifestations are counteracted and controlled by adrenal corticoids, released and produced in their entirety under stimulation by ACTHAR, the physiologic stimulus of the adrenal cortex. Five fundamental functions of adrenal cortical stimulation appear discernible:

1. **Inhibition of the acute inflammatory process in the body tissues.**
2. **Inhibition of fever—from almost any source.**
3. **Inhibition of pain—from almost any etiology.**
4. **Inhibition of adverse cellular response to a host of toxic agents, whether of allergenic or bacterial origin.**
5. **Inhibition of excessive proliferation of fibroblasts.**

ACTHAR, through its physiologic mode of action, mobilizes and potentiates vital endogenous defense powers of the organism.

ESTABLISHED INDICATIONS: Collagen diseases or connective tissue diseases, such as rheumatoid arthritis, rheumatic fever, acute lupus erythematosus; hypersensitivities, such as severe asthma, drug sensitivities, contact dermatitis; most acute inflammatory diseases of the eye; acute inflammatory conditions of the skin, such as acute pemphigus and exfoliative dermatitis; inflammatory conditions of the intestinal mucosa, such as ulcerative colitis; and metabolic diseases, such as acute gouty arthritis and secondary adrenal cortical hypofunction.

ACTHAR

ARMOUR LABORATORIES BRAND OF ADRENOCORTICOTROPIC HORMONE (A.C.T.H.)

THE ARMOUR LABORATORIES
CHICAGO 11, ILLINOIS

EXPERIMENT SUGGESTS COCKROACH AS POSSIBLE SPREADER OF POLIO

Cockroaches under certain conditions may possibly be carriers of the polio-encephalomyelitis group of viruses, an editorial in a recent issue of the *Journal of the American Medical Association* points out.

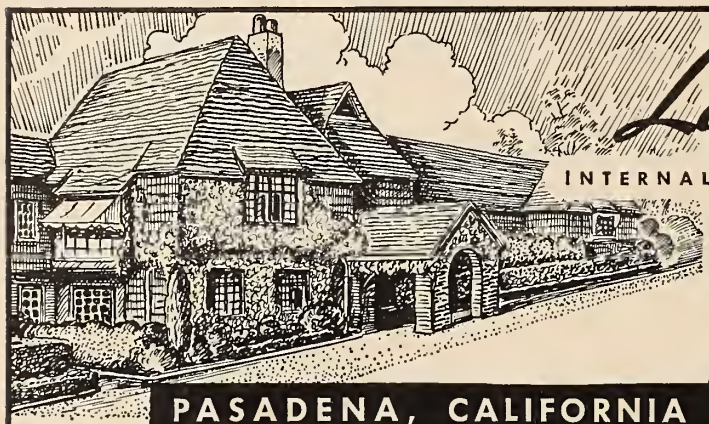
Those viruses are responsible for the inflammation of the gray matter of the spine and brain, one result of which is paralysis and frequently permanent deformity.

The editorial cited experiments carried out in the departments of bacteriology at the University of Minnesota, Minneapolis, and the University of North Dakota, Grand Forks.

There, adult cockroaches were strapped to corks with adhesive tape. Each was given a single feeding of a suspension containing the brain tissue from a mouse dying from encephalomyelitis. The excrement of the cockroaches was made into a solution which was injected into normal white mice. Injections of material from normal cockroaches were given another group of mice.

"For each of the first six consecutive days after the experimental feeding the fecal suspensions con-

(Continued on Page 22)



Las Encinas
SANITARIUM
INTERNAL MEDICINE • NERVOUS DISORDERS

MEDICAL STAFF
CHARLES W. THOMPSON, M.D., F.A.C.P.
DIRECTOR
CLIFTON H. BRIGGS, M.D., F.A.C.S.
ASSOCIATE DIRECTOR
ETHEL FANSON, M.D.
DOUGLAS R. DODGE, M.D.
CARLOS F. SACASA, M.D.
HERBERT A. DUNCAN, M.D.
KENNETH P. NASH, M.D.
STEPHEN SMITH, III, M.D.

PASADENA, CALIFORNIA

Southern Sierras Sanatorium

• for Tuberculosis and Allied Affections

BANNING, CALIFORNIA

Unsurpassed year-raund climate
Near but not upan the desert
Absence af extremes • Altitude 2350 feet

Freedom from Smog

90 miles east of Los Angeles on Highways 99, 60 and 70

Sustained reputation for service and satisfaction

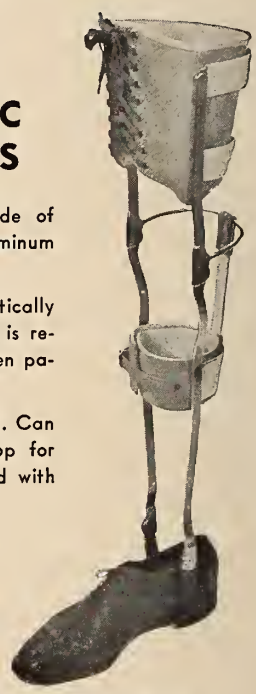
C. E. ATKINSON, M.D. . . *Medical Director*

for . . .
ORTHOPEDIC APPLIANCES

This lang leg brace is made of stainless steel and strang aluminum allay.

The knee jaints lock autamatically when leg is extended. Lock is released by edge of chair when patient sits.

Ankle joint is at actian level. Can have spring lift or 90° stop for drap faat. Stirrup is covered with leather to match shae.



△
Established 1893
"Two Generations of Appliance Makers"
△

M. J. BENJAMIN
501-518 Paramount Theatre Bldg.
Two Elevator Entrances
323 WEST 6th ST. 536 SO. HILL ST.
Phone MAdison 1593 • LOS ANGELES

the Ca:P ratio is the key

A uniformly high calcium-phosphorus ratio . . . adjusted in BREMIL to a guaranteed minimum of 1½ parts calcium to 1 part phosphorus . . . this is the nutritional key to the prevention of hypertonicity, hyperirritability, and other tetanic symptoms in infants.

Gardner, Butler, et al., state: "Relative to human milk, cow's milk has a low Ca:P ratio . . ."[1] Nesbit writes: "Tetany of the newborn is now recognized as a definite entity . . . and often accompanied by an increased phosphorus and lowered blood calcium."[2] Dodd comments that "hypocalcemia tetany in the newborn may be of serious consequence."[3]

BREMIL . . . newest product of Borden research . . . is a completely modified milk in which nutritionally essential elements of cow's milk have been adjusted in order to supply the nutritional requirements of infants deprived of human milk. BREMIL is therefore a human milk replacement to which physicians can turn with confidence for uninterrupted good results.

	human milk	Bremil (*reconstituted*)	
	0.034%	0.078%	
	315 mg.	768 mg.	per qt.
	.015%	.052%	
	128 mg.	512 mg.	per qt.
	.041%	.078%	
	480 mg.	750 mg.	per qt.
	.00018%	.00082%	
	5 mg.	8 mg.	per qt.

But an adjusted Ca:P ratio is not the only attribute that makes Bremil new and unique

BREMIL has the fatty acid and amino acid patterns of human milk . . . the same carbohydrate (lactose) . . . vitamin adjustments to meet the recommended standards of infant nutrition[4] . . . a soft, flocculent curd of small particle size comparable to human milk . . . complete solubility.

Just as with human milk you can start the infant on BREMIL the day it is born. Standard dilution is 1 level tablespoonful and 2 fl. oz. water, although BREMIL can be either concentrated or diluted. Each level tablespoonful BREMIL powder supplies 44 calories. BREMIL is easy to prepare and can be mixed for a single feeding or a 24-hour period.

Complete information and a trial supply may be obtained upon request. BREMIL is available in drugstores in 1 lb. cans.

1. Gardner, L. I., Butler, A. M., et al.: *Pediatrics* 5:228, 1950.
2. Nesbit, H. T.: *Texas State J. M.* 38:551, 1943.
3. Dodd, K., and Rapoport, S.: *Am. J. Dis. Children* 78:537, 1949.
4. Recommended Daily Dietary Allowances, Revised 1948, Food and Nutrition Board, National Research Council.

ible, palatable, easy to prepare **Bremil**® *powdered infant food*

Prescription Products Division

The **Borden** Company, *350 Madison Avenue, New York 17*

EXPERIMENT SUGGESTS COCKROACH AS POSSIBLE SPREADER OF POLIO

(Continued from Page 18)

tained sufficient virus to paralyze and kill mice in two to four days," the *Journal* said. "On and after the seventh day, results of the tests were negative. All control mice remained normal.

"Because of the gregariousness, longevity and nocturnal habits of cockroaches, and the intimacy and constancy of their association with the food and excreta of man and animals, this experimental evidence is of suggestive clinical interest."

Buy U.S. Savings Bonds

SUPPORTS NUTRITION BRANCH OF PUBLIC HEALTH SERVICE

The A.M.A. Council on Foods and Nutrition passed a resolution recently, urging that the Bureau of the Budget reconsider its decision to abolish the Nutrition Branch of the U. S. Public Health Service after the first of the year. "The liquidation of this Nutrition Branch deprives us of an important resource," the resolution said.

After setting out the important responsibilities of the branch with relation to medical guidance on nutrition, the resolution said:

"These functions are those of a full-time service program in medical nutrition. In our judgment, they must reside in a health agency."

The Alexander Sanatorium, Inc.

Situated in the Foothills of
BELMONT, CALIFORNIA

Specialized care of Convalescents; also NERVOUS, MENTAL and ALCOHOLIC Patients.

Experienced Staff for the application of INSULIN and ELECTRIC SHOCK Therapies and for the CONDITIONED REFLEX TREATMENT of ALCOHOLISM.

Recognized by the American Medical Association; Member of Association of Private Mental Hospitals and of the Western Hospital Association.

MRS. A. S. ALEXANDER, *President* Telephone: LYtell 3-2143

HYLAND LABORATORIES
BLOOD DIAGNOSTIC REAGENTS*

BLOOD GROUPING SERUMS, ANTI-A AND ANTI-B
ANTI-HUMAN SERUM (for the COOMBS TEST)
ANTI-Rh TYPING SERUMS
DRIED COMPLEMENT AB SERUMS

HYLAND LABORATORIES • 4534 Sunset Boulevard, Los Angeles 27, California

*Fill out and return this coupon for sample supply of Blood Grouping Serums and Anti-Rh$_o$ Serum. Test them in your own laboratory and convince yourself of their speed and specificity. Available through your regular source of supply or directly from Hyland Laboratories.

*Name*_____ *Address*_____

*City and State*_____ *Hospital or Laboratory Affiliation*_____

a multi-purpose hematinic

Docehema

an up-to-date oral formula

Based on recent advances in the isolation of hematopoietic principles, DOCEHEMA combines the most essential factors for improvement of many diverse blood dyscrasias. Each DOCEHEMA Capsule contains:

Ferrous Sulfate, Exsiccated	129.0 mg	...for rapid hemoglobin response.
Folic Acid	0.5 mg	...for synergistic action with B_{12}[1]
Vitamin B_{12} U.S.P.	4.0 mcg	..for extrinsic factor-like action[2]
Ascorbic Acid	50.0 mg	...to boost iron utilization[3]
Insoluble Liver Fraction (3 grs)	192.0 mg	...to furnish the secondary anemia (Whipple) fraction as additional building stones for red blood corpuscles[4]

I.V.C.®

Docehema*

In bottles of 100 gelatin capsules

*Trade Mark

1) Editorial: Lancet, 258:767, 1950. 2) Bethell, H.F., et al.: Univ. Hosp. Bull., Ann Arbor, 15:49-53, July '49. 3) Bergeim, O. and Kirch, E.R.: J. Biol. Chem., 177:989, 1949. 4) J.A.M.A.: 141:50, Oct. 15, 1949.

IVES-CAMERON COMPANY, INC.

22 East 40th St., New York 16, N. Y.

. . . The Institute for
CHILD STUDY

TRACY J. PUTNAM, M.D.
President

A unified program for the study and personality adjustment of children. Services now offered include counselling; guidance; psychological testing; speech pathology; play therapy and educational therapy.

LOUISE J. GORDY, M.D.
Consultant Psychiatrist

ELISE HAHN, Ph.D.
Speech Pathologist

O. E. HOOD, M.S.
Executive Director

MARION B. GALE, M.A.
Clinicol Psychologist

450 N. Bedford Drive, Beverly Hills, Calif.
Telephone: CRestview 4-5304

CROCKER FIRST NATIONAL BANK
ESTABLISHED 1870
CALIFORNIA'S OLDEST NATIONAL BANK

Automobile Loans at Bank Rates

We invite you to compare *Bankway* rates before you finance the purchase of your next car. There are no hidden "extra" charges. You will know the exact loan costs in advance of delivery. Use Crocker *Bankway* Credit to finance your automobile.

CROCKER FIRST NATIONAL BANK
1 Montgomery Street, San Francisco
13th at Franklin Street, Oakland

Member F. D. I. C.

HOSPITAL STANDARDIZATION

Since 1918 the American College of Surgeons, without assistance from other organizations within the profession, has sponsored a hospital standardization program, the purpose of which was "to create in the hospital an environment which will assure the best possible care of the patient." It has been recognized by the medical profession and hospital group alike that the College of Surgeons through this program has made a significant contribution to American medicine and to the field of hospital administration as well. The cost of the program to date has been estimated at approximately $2,000,000, a financial burden which has been borne solely by fellows of the college.

Recently, the American College of Surgeons explored the possibility of conducting the program in cooperation with or by other interested organizations. The American Hospital Association expressed its interest in assuming responsibility for the program under its own aegis, and at its recent annual meeting in Atlantic City authorized an increase in dues of member hospitals for this purpose. A plan had been proposed which would create a 25-member commission within the American Hospital Association to include six members of the medical profession, six hospital administrators and 13 individuals with outstanding records as hospital trustees. The six-man medical committee was to have included three representatives of the American College of Surgeons and three of the American College of Physicians. To this committee was delegated the responsibility for formulating standards for those aspects of the hospitals' activities which were considered to be primarily of a professional nature. The determination as to which areas were primarily professional and which were administrative was, however, made the responsibility of the commission as a whole.

The American Medical Association, being of the opinion that a program of hospital standardization, such as had been proposed, would directly affect standards of medical practice in hospitals, requested that action by the American Hospital Association in establishing the standardization program be delayed until all aspects of the problem could be given careful consideration. Acting through its board of trustees, the Association entered into discussion with the American College of Surgeons and the American Hospital Association in the hope that a cooperative plan could be developed which would eliminate a dual standardization program with its consequent duplication of effort and needless expenditure of funds.

The three groups have been holding meetings, the last of which was also attended by representatives of the American College of Physicians, in an attempt to clarify the position of the several organizations involved. Much progress has been made in working toward the objective, a plan in which the best interest of the public, the hospitals and the profession are all considered. There has been no disagreement over the principle that the setting of standards for the professional aspect of the hospital would lie with members of the medical profession.

(Continued on Page 32)

All Children Can Benefit from *this Hot Drink at Breakfast*

The problem of encouraging children to eat an adequate breakfast finds easier solution when Ovaltine in hot milk is recommended as a breakfast beverage. Many children clamor for a hot drink at the morning meal and Hot Ovaltine is the right kind of drink to recommend.

A cup of Hot Ovaltine makes an excellent contribution of virtually all essential nutrients, adding substantially to the nutritional start for the day. It also serves in a gustatory capacity by enhancing the appeal of breakfast and making other foods more inviting.

The nutrient contribution made by a cup of Ovaltine is apparent from the table below. Note the wealth of essentials added to the nutritional intake by making the simple recommendation of adding a cup of Hot Ovaltine to the child's breakfast.

THE WANDER COMPANY, 360 N. MICHIGAN AVE., CHICAGO 1, ILLINOIS

Ovaltine

Here are the nutrients that a cupful of hot Ovaltine, made of ½ oz. of Ovaltine and 8 fl. oz. of whole milk,* provides:

PROTEIN	10.5 Gm.	IRON	4 mg.	NIACIN	2.3 mg.
FAT	10.5 Gm.	COPPER	0.2 mg.	VITAMIN C	10 mg.
CARBOHYDRATE	22 Gm.	VITAMIN A	1000 I.U.	VITAMIN D	140 I.U.
CALCIUM	370 mg.	VITAMIN B_1	0.39 mg.	CALORIES	225
PHOSPHORUS	315 mg.	RIBOFLAVIN	0.7 mg.		

*Based on average reported values for milk.

HOSPITAL STANDARDIZATION

(Continued from Page 26)

The American Medical Association has not felt, however, that this principle was adequately safeguarded under the plan originally proposed, which would set up a commission as an agency of the American Hospital Association.

As expressed in discussions held during the past several weeks, the American Medical Association is prepared at this time to consider favorably one of the following alternate plans:

1. Continued sponsorship of the hospital standardization program by the American College of Surgeons, with financial support by the American Medical Association and other organizations directly concerned.

2. Establishment of an individual commission, board or committee, with representatives from the American College of Surgeons, American College of Physicians, American Hospital Association and the American Medical Association, which would be charged with the responsibility of formulating standards for administrative and professional aspects of hospital activities, for conducting a unified inspection program for approval of hospitals which meet these standards; the financing of the cost of the commission, including the field inspecting service, would be borne on a proportionate basis by member organizations.

3. Transfer of the standardization program to the Council on Medical Education and Hospitals of the American Medical Association, with a unified inspection program conducted in connection with the field service now administered by the council in the approval of hospitals for intern and resident training. (In general surgery the council presently conducts hospital surveys in behalf of the American College of Surgeons, the American Board of Surgery and the A.M.A.)

Pending outcome of present negotiations, we have been advised that the American College of Surgeons will continue its present program.

It is our hope that the program so successfully carried out by the college over the last 30 years can be expanded under a plan acceptable to all organizations concerned.—GEORGE F. LULL, M.D., *Modern Hospital*, November 1950.

COLLECTIONS—with dignity and the utmost efficiency, recognized and recommended to the profession for over twenty years.

Seven Eighty-five Market Street San Francisco EXbrook 2-1670

"Representing Doctors of California by the Hundreds"

PROCREDIT COMPANY

Professional Finance & Credit Service "ASK ANY DOCTOR"

Represented by bonded agents throughout the United States

LIVERMORE SANITARIUM

• The Hydropathic Department devoted to the treatment of general diseases, excluding surgical and acute infectious cases. Special attention given functional and organic nervous diseases. A well equipped clinical laboratory and modern X-ray Department are in use for diagnosis.

• The Cottage Department (for mental patients) has its own facilities for hydropathic and other treatments. It consists of small cottages with homelike surroundings, permitting the segregation of patients in accordance with the type of psychosis. Also bungalows for individual patients, offering the highest class of accommodations with privacy and comfort.

GENERAL FEATURES

1. Climatic advantages not excelled in United States. Beautiful grounds and attractive surrounding country.
2. Indoor and outdoor gymnastics under the charge of an athletic director. An excellent Occupational Department.
3. A resident medical staff. A large and well-trained nursing staff so that each patient is given careful individual attention.

Information and circulars upon request.

Address: O. B. JENSEN, M.D.
Superintendent and Medical Director
LIVERMORE, CALIFORNIA
Telephone 313

CITY OFFICES:

SAN FRANCISCO
450 Sutter Street
GArfield 1-5040

OAKLAND
1624 Franklin Street
GLencourt 1-5988

U. S. MATERNAL DEATH RATE ESTABLISHES NEW LOW RECORD

For the first time in history, the maternal death rate for a large nation has been pushed slightly below the apparently irreducible minimum of one per 1,000 live births, according to a recent issue of the *Journal of the American Medical Association.*

This record was set in 1949 by the United States, based on preliminary reports, said the *Journal.* When the 1949 rates for Sweden, Norway, Denmark, the Netherlands and New Zealand become available, one or more of these small countries with a homogeneous population may join the select circle, the publication added.

The new record, it was pointed out, compares with 1.2 maternal deaths per 1,000 live births in 1948 and with 6.2 in 1933. On that basis, the *Journal* concluded that "childbirth has been made quite safe."

In 1949 there were 30 states with rates less than 1.0, two at exactly that level and only 17 above.

"The fact that the chances of an expectant mother surviving the diseases of pregnancy, childbirth and the puerperium are now better than 999 out of 1,000 is truly a story of human and social progress," said the *Journal.* "An examination of the rates for the different states indicates areas in which further improvement can be expected, but it is clear that maternal mortality is no longer a nationwide problem."

The reduction in the death rate from 1933 was attributed to several factors: (1) an increasing percentage of births in hospitals, although improvements in the medical care provided in home births have been pronounced; (2) development of prenatal care; (3) health education; (4) the administration of sulfonamides, antibiotics, whole blood or blood derivatives, and (5) improvement in training in obstetrics.

Unlike the trend in many nations, the number of births attended by midwives in the United States is being rapidly reduced, it was pointed out.

Rent an office, buy or sell equipment, find an associate. Read and advertise in CALIFORNIA MEDICINE'S Classified Advertising section.

Reminder for arthritis cases!

The SAFE gold preparation AUROL-SULFIDE, 2% parenteral gold sulfide, is now available for physicians in any quantity desired, in 15, 30, and 60 cc. vials. Literature available. Please order direct or through your pharmacist.

6007 N. LINCOLN AVE.
HILLE LABORATORIES, Chicago 45

CLINICAL STAFF

•

MEDICAL STAFF OF CALIFORNIA

Charles M. Campbell, Jr., M.D.
Director of Clinical Services
Richard H. Lambert, M.D.
Consulting Psychiatrist
Ivan A. McGuire, M.D.
Consulting Psychiatrist
David L. Reeves, M.D.
Consulting Neurologist

•

PSYCHOLOGICAL STAFF OF CALIFORNIA

Harold S. Danenhower, M.Sc.
Principal and Educational Psychologist
Thomas W. Jefferson, Ph.D.
Clinical Psychologist
Myrtle Mandiberg, A.M.
Psychotherapist

SECURITY *through Education with Therapy*

THE ABILITY to learn and to compete satisfactorily—the reassurance of understanding and acceptance and love—are all component parts of establishing security in the growing child. The youngster with an emotional problem which is interfering with his native ability to learn needs *special* help if he is to achieve the security and balance so essential to his intellectual and emotional progress.

When you meet the problem of providing a school-age patient with specialized guidance, we invite you to let us evaluate the needs. When there is normal intelligence, but emotional disturbances which block the ability to learn, our experienced staff will carefully study the details and offer a considered report.

Please address your inquiries to HELEN V. BARCLAY, *Registrar*

HUMANI NIHIL A ME ALIENUM PUTO
DEVEREUX FOUNDATION
CALIFORNIA PENNSYLVANIA

Devereux Schools

Helena T. Devereux, Executive Director

SANTA BARBARA, CALIFORNIA • DEVON, PENNSYLVANIA

"...the only drug we have seen that allays anxiety without clouding consciousness"

J.A.M.A. *140*:672 (June 25) 1949

Tolserol (*Squibb Mephenesin*)

- to alleviate pronounced anxiety and tension
- as an adjunct in the treatment of chronic alcoholics

DOSAGE

In anxiety tension states:

As little as 0.5 Gm., given orally every few hours, has produced a good response. However, for optimum effect, 0.75 Gm. or more is given several times a day.

As an adjunct in the treatment of chronic alcoholics:

As much as 3 Gm. orally every four hours has been found useful in the acute stage. This dosage is reduced when the patient becomes more manageable. (If Tolserol is given too soon after the patient drank alcohol, the toxic effect of the alcohol may be potentiated. For this reason, Tolserol should not be administered until six hours have elapsed since the patient drank alcohol.)

Tablets, 0.5 Gm., 0.25 Gm.; *Capsules*, 0.25 Gm.; *Elixir*, 0.1 Gm. per cc.; *Solution*, 2% (intravenous).

Tolserol *(Squibb Mephenesin)*

SQUIBB 745 FIFTH AVENUE, NEW YORK 22, NEW YORK
MANUFACTURING CHEMISTS TO THE MEDICAL PROFESSION SINCE 1858

"TOLSEROL" IS A REGISTERED TRADEMARK OF E. R. SQUIBB & SONS

When the diagnosis is Pyelitis

First: consider

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

to establish and maintain urinary antisepsis...

To establish and maintain urinary antisepsis, MANDELAMINE* is many times preferred because it is quickly effective against the organisms most commonly encountered in urinary-tract infections. Its exceptional freedom from untoward reactions and its wide range of antibacterial activity commend it for use as soon as the diagnosis has been made.

Urinary antisepsis is often achieved in uncomplicated pyelitis in as few as three days. Speedy recovery is thus secured in many cases without necessitating higher-cost therapy.

Renal insufficiency is the only major contraindication to MANDELAMINE therapy.

MANDELAMINE is available in bottles of 120, 500, and 1,000 enteric-coated tablets, through all prescription pharmacies. Comprehensive literature and samples for clinical trial will be furnished to physicians on request.

NEPERA

NEPERA CHEMICAL CO., INC.
Pharmaceutical Manufacturers
NEPERA PARK, YONKERS 2, N. Y.

*MANDELAMINE is the registered trademark of Nepera Chemical Co., Inc., for its brand of methenamine mandelate.

French Hospital

Geary Boulevard and Fifth Avenue
SAN FRANCISCO, CALIFORNIA

A general hospitol of 225 beds operoting on occredited School of Nursing, odmitting oll closses of patients except those suffering from mental diseoses. Orgonized in 1851 and operoted by the French Mutuol Benevolent Society through o Boord of Directors, o chief executive officer ond staff. Accredited for intern troining by the Americon Medicol Associotion ond opproved by the Americon College of Surgeons.

Staff

Alfred Raynal.....*President*
Louis Alaux.....*Secretary*
E. C. H. Pearson.....*Superintendent*
William L. Rogers, M.D.....*Chief of Staff*
Forrest M. Willett, M.D.....*President of Staff*
R. L. Smith, M.D.....*Secretary of Staff*

CONSTANT RESEARCH

Invented in 1861, Hanger Artificial Limbs have been constantly improved over the years. Today, the Hanger Leg is recognized as one of the world's finest artificial limbs.

Hanger Research is continually developing and testing new ideas, new methods, and new materials. From these efforts have come many outstanding achievements, adding greatly to the comfort and to the ever-increasing utility of the limb. Hip control, dural light construction, natural action joints, the flexible foot, are a few of the many advancements of recent years.

The many Hanger companies in many key cities throughout the United States are constantly studying, planning, and developing new improvements to give you an ever better artificial limb.

HANGER ARTIFICIAL LIMBS
608 Hayes Street
San Francisco 2, California

DIABETES DETECTION DRIVE REVEALS UNKNOWN SUFFERERS

Results of a two-year continuing diabetes detection program in Dayton, Ohio—during which time 69,159 persons were given free tests—are revealed in a recent issue of the *Journal of the American Medical Association.*

A breakdown of the figures of the Dayton drive, which was conducted by the diabetes detection committee appointed by the president of the Montgomery County (Ohio) Medical Society, shows that 4.7 per cent (2,991) of the total number examined had positive tests for sugar in the urine. Two thirds (2,024) of this suspected group subsequently submitted to blood sugar determinations which uncovered 148 previously unrecognized diabetic persons and confirmed diagnoses on 151 already known diabetics.

When a simple preliminary test shows sugar in the urine an additional blood test is necessary to determine whether or not the person actually has diabetes.

The diabetes detection committee began its activity in Dayton in December 1948 in cooperation with the first annual diabetes detection drive of the American Diabetes Association. Members of the committee were Drs. Thomas P. Sharkey, Paul Troup, Richard Miller, Herman C. Van Kirk and Homer H. Williams, and Robert Freeman, executive secretary of the Montgomery County Medical Society.

Widespread community support was enlisted for the campaign. Cooperating with the committee were: Dayton Chamber of Commerce, Metropolitan Health Council, Dayton School Board, city newspapers, radio and television stations, Parent-Teacher Association, Dayton Pharmaceutical Association, Women's Auxiliary of the Montgomery County Medical Society, city officials, private and public laboratories and hospitals, industrial plants, community centers and recreational directors.

"In most other localities throughout the country," the committee explained, "the detection drive [1948] extended for a period of one week, but the program in Dayton has been a continuous one since it was launched.

"The results obtained in the Dayton drive have served to indicate that the mass testing of school children and industrial workers affords the simplest potential means for detecting unrecognized diabetes under controlled conditions in a large segment of the population.

"The diabetes detection program in the industrial plants received high praise from both the employers and the employees. Each group believed that the other had contributed something of mutual benefit, and considerable good will was engendered.

"All employees with evidence of diabetes were encouraged to seek treatment from their family physicians, and they were notified that as long as their diabetes was controlled their prospects for continued employment and advancement were equivalent to those of other nondiabetic employees."

The report disclosed that a total of 21,094 indus-

(Continued on Page 42)

will reduction of serum cholesterol extend life?

by preventing atherosclerosis

"It is generally accepted that persistently high plasma cholesterol levels are associated with development of arteriosclerosis."[1]

now contains added lipotropic vitamin B_{12}

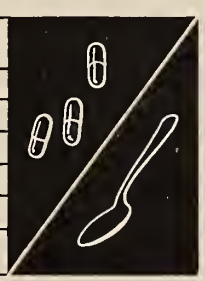
Accumulating evidence shows that lipotropic therapy will reduce elevated blood cholesterol levels[4-7]... and even may "prevent or mitigate" cholesterol depositions in the intima of blood vessels in man and animals.

It has been reported[8] that in patients who have survived acute coronary occlusion, lipotropic therapy may significantly prolong life as compared to similar untreated groups.

methischol capsules syrup

for complete lipotropic therapy

suggested daily therapeutic dose of 9 capsules or 3 tablespoonfuls provides:	
Choline Dihydrogen Citrate	2.5 Gm.*
dl-Methionine	1.0 Gm.
Inositol	0.75 Gm.
Vitamin B_{12}	9 mcg.
Liver fractions from . . 36 Gm. liver	
*present in Methischol Syrup as 1.15 Gm. choline chloride.	



400% more cholesterol in coronary arteries in fatal thrombosis

"The average cholesterol content of the coronary arteries in a group of patients who died from acute coronary artery thrombosis was four times as great as the average cholesterol content of the coronary arteries in a comparable group of control patients."[2]

Write for samples and literature

1. J.A.M.A. 143:858, 1950.
2. Morrison, L. M. and Johnson, K. D.: Amer. Heart J. 39:31, 1950.
3. Joslin, E. P.: Rev. Gastroent. 17:545, 1950.
4. Herrmann, G. R.: Exp. Med. & Surg. 5:149, May-Aug. 1947.
5. Leinwand, I. and Moore, D. H.: Amer. Heart J. 38:3, Sept. 1949.
6. Felch, W. C.: N. Y. Med. 5:16, Oct. 20, 1949.
7. Pomeranze, J. and Levine, V.: Rev. of Gastroent. 16:771, Oct. 1949.
8. Morrison, L. and Gonzalez, W. F.: Amer. Heart J. 38:471, Sept. 1949.

u. s. vitamin corporation
casimir funk laboratories, inc. (affiliate)
250 E. 43rd St. • New York 17, N. Y.

DIABETES DETECTION DRIVE REVEALS UNKNOWN SUFFERERS

(Continued from Page 38)

trial workers were tested, with 3.5 per cent having sugar-urine indications. Two thirds of this number submitted to blood sugar determinations. Newly discovered diabetic persons numbered 68. Thirty-three diagnoses on known diabetic patients were confirmed.

Approximately one in 20 of the 38,528 children tested in Dayton showed positive reactions for sugar. From the three-fourths of this group who had further tests, 18 previously unknown cases were discovered. Two previously known diabetic children were also noted.

Commenting on the importance of diabetic detection work, Dr. William W. Bauer of Chicago, director of the A.M.A. Bureau of Health Education, said:

"Among serious diseases there are few more susceptible to specific medical management which, even in the absence of cure, prolongs life, increases efficiency, protects earning power, minimizes disability and adds to the joy of living. The insidious onset of the disease is the greatest handicap, and it is against this that the diabetes detection drives are aimed."

Read California Medicine's *Classified Advertising Section for Locations*

ALUM ROCK SANATORIUM
SAN JOSE, CALIFORNIA

Telephone Clayburn 8-4921

A Non-Profit Sanatorium for the treatment of tuberculosis and other diseases of the chest.

MEDICAL DIRECTOR
Buford H. Wardrip, M.D.

ASSOC. MEDICAL DIRECTOR
C. Gerald Scarborough, M.D.

VISITING MEDICAL STAFF
Cabot Brown, M.D., San Francisco
Gerald L. Crenshaw, M.D., Oakland
J. Lloyd Eaton, M.D., Oakland
Ina Gourley, M.D., Oakland
H. Corwin Hinshaw, M.D., San Francisco
W. Dale Peterson, M.D., Oakland
Glenroy N. Pierce, M.D., San Francisco
Harold Guyon Trimble, M.D., Oakland
James Robert Wood, M.D., Oakland

CONSULTING PATHOLOGIST: E. Gwyn Roberts, M.D., San Francisco

THE MEDICAL PROTECTIVE COMPANY
FORT WAYNE, INDIANA

Professional Protection Exclusively since 1899

LOS ANGELES Office:
D. C. Seeman, Representative,
417 First Trust Bldg., Pasadena
Telephone RYan 1-6981
and SYcamore 3-0676

SAN FRANCISCO Office:
Gordon C. Jones, Representative,
1735 Sweetwood Drive
Telephone Plaza 5-4478

KABAT-KAISER INSTITUTE
For Neuromuscular Rehabilitation

1815 Ocean Front
Santa Monica, California

Specializing in the Treatment of the Crippled and Physically Handicapped Patient

Resident and Out-Patient Services

Resident Medical Director:

O. LEONARD HUDDLESTON, M.D., Ph.D.
Diplomate American Board of Physical Medicine

Richard W. Moore, M.D. David Rubin, M.D.
Clark Richardson, M.D. Rene Cailliet, M.D.

Phone: EXbrook 3-2751

California MEDICINE

OFFICIAL JOURNAL OF THE CALIFORNIA MEDICAL ASSOCIATION
© 1951, by the California Medical Association

VOL. 74 FEBRUARY 1951 No. 2

Treatment of Difficult and Involved Colles' Fractures

FRANCIS J. COX, M.D., and AUGUST W. MEIER, M.D., *San Francisco*

SUMMARY

Of 105 cases of Colles' fracture, 86 were treated by closed reduction and plaster immobilization alone; 19 cases in which the fractures were more severe were treated by fixed skeletal traction using an external skeletal traction splint.

Despite the greater severity of the lesions, the end results, both anatomic and functional, were generally better in those cases in which skeletal traction was used than in those treated by closed reduction.

FRACTURES of the distal end of the radius which cause comminution and impaction of the fragment of the radius are the only true Colles' fractures.[5] As cancellous bone must be present for this to occur, true Colles' fracture never occurs in persons under 20 years of age. In most cases in which persons in the second and third decades of life receive a fracture in a fall on an outstretched hand, the break is in the carpal scaphoid rather than in the radius at the wrist. Most Colles' fractures occur in persons over 40 years of age; the incidence is higher in persons over 50 years of age.

In a Colles' fracture there must be an element of impaction or compression of fragile cancellous bone. After the impaction is broken up and the fragments are pulled out into proper alignment, a dead space remains (Figure 1), caused by the compression of the elements of cancellous bone in that area. This dead space must fill in with blood clot and new bone before healing of the fracture occurs. If the impaction is severe or comminution exists, it becomes exceedingly difficult to maintain length and alignment of the radius while the dead space is filling in with new bone. For this reason, in many cases Colles' fracture is complicated by loss of position following reduction, shortening of the radius, a radial shift of the carpus, and distortion in the normal relationship of the radius and ulna in the distal radio-ulnar joint. This fact accounts for the permanent residual deformity and disability so common after a severe Colles' fracture; the patients have limited mobility in the wrist joint, and almost all of them have pain at the distal radio-ulnar joint. Several reconstructive surgical procedures have been developed to overcome this disability. Campbell[4] advised osteotomy of the radius with a bone graft inserted to restore length and proper alignment of the radius

Figure 1.—Severe Colles' fracture in traction. Note area of dead space which must fill in with new bone to maintain length.

From the Department of Bone and Joint Surgery, Stanford University Medical School; and San Francisco Hospital.

Presented before the Section on Industrial Medicine and Surgery at the 79th Annual Session of the California Medical Association, San Diego, April 30-May 3, 1950.

with the carpus. Darrach[6] advised resection of the distal end of the ulna so as to allow for restoration of normal pronation and supination, and to obviate pain in the distal radio-ulnar joint. The authors felt that if length and alignment of the radius could be maintained by fixed skeletal traction while the dead space was being obliterated with new bone formation, the development of deformity could be prevented and the necessity for reconstructive surgical procedure avoided.

One hundred thirty-nine patients with Colles' fracture were treated at the San Francisco Hospital; 105 were followed up for at least six months, and the end results were studied and evaluated. In the other 34 cases follow-up was inadequate.

Closed reduction with plaster immobilization was carried out in 86 cases. The number of patients in each age group, by decades, was as follows: Third decade, 5; fourth, 14; fifth, 15; sixth, 21; seventh, 10; eighth, 17; ninth, 5. In the majority of cases sodium pentothal was used for anesthesia during reduction and a plaster of paris cast extending from the proximal palmar crease to above the elbow was applied for immobilization. The forearm was held in moderate pronation at about 15 to 20 degrees of flexion and 20 to 25 degrees of ulnar deviation. When the reduction was accomplished and the cast applied, the forearm was held in a position of pronation before the wrist was flexed and placed in ulnar deviation. This is an important point because of the fact that the procedure placed the hand in such a position that full finger motion was made possible.

The detail of moulding the plaster to hold the carpus tightly against the ulna is important. The cast must be cut back far enough into the palm to allow for 90 degrees of motion in the metacarpophalangeal joints. If this much finger motion is possible, there is no chance for fixation of the flexor and extensor tendons at the site of fracture. As a consequence, there is no difficulty in restoring wrist movement even though a fracture has been held for as long as eight to 12 weeks in plaster.

In evaluating anatomic and functional end results, the following system of grading was adopted: 0 for failure; 1 for 25 per cent of normal; 2 for 50 per cent of normal; 3 for 75 per cent of normal, and 4 for normal.

Anatomic results were as follows: in 26 cases, 0; in two cases, 1; in 11 cases, 2; in 26 cases, 3; in 21 cases, 4.

Functional results: in one case, 1; in seven cases, 2; in 37 cases, 3; in 41 cases, 4. Most of these patients had a satisfactory wrist joint even though some of the anatomical position was lost due to resorption and shortening in plaster.

Figure 2.—End result following resection of the distal end of the ulna according to the method of Darrach. The distal radio-ulnar joint is eliminated and pronation and supination are restored.

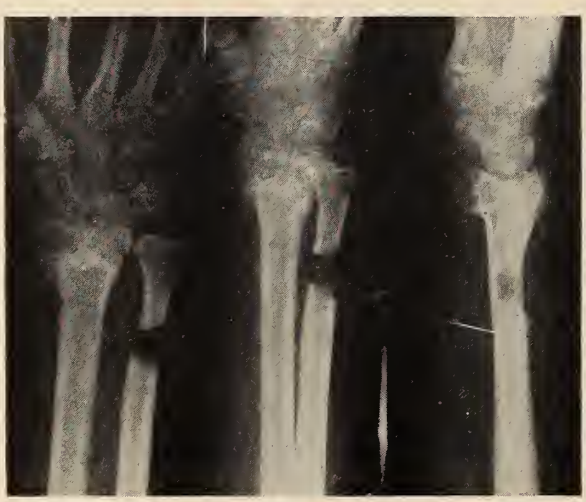


Figure 3.—Substitution of pseudoarthrosis in the shaft of the ulna to compensate for the loss of movement in the distal radio-ulnar joint. Main indication where shortening of the radius is not excessive.

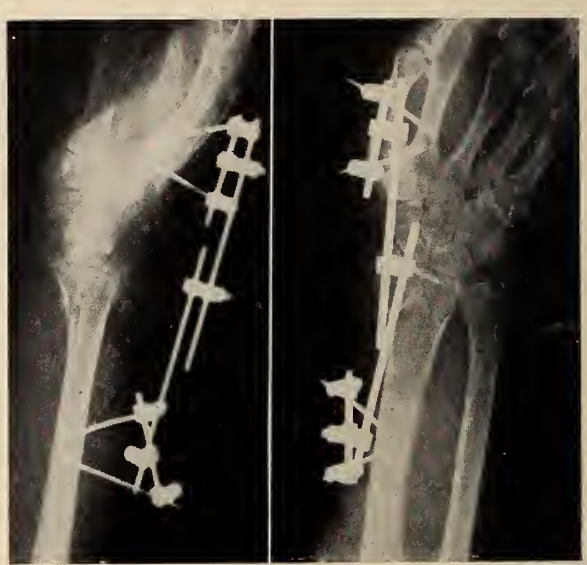


Figure 4.—First half pin unit placed through the shaft of the second metacarpal, and the second half pin unit placed in the shaft of the radius proximal to the fracture. The closed reduction is maintained by the external fixation bar.

Figure 5.—Case 1. Note severity of comminution of the radius with compression of the cancellous bone. Dead space created.

Figure 6.—Case 1. End result, one year, shows healing with fair preservation of length. Dorsal tilt, distal end of the radius 20 degrees. Distortion of the distal radio-ulnar joint eaused by shortening of the radius. Anatomieal result considered 50 per eent of normal. Functional result is exeellent. Three years later the patient was doing heavy manual labor.

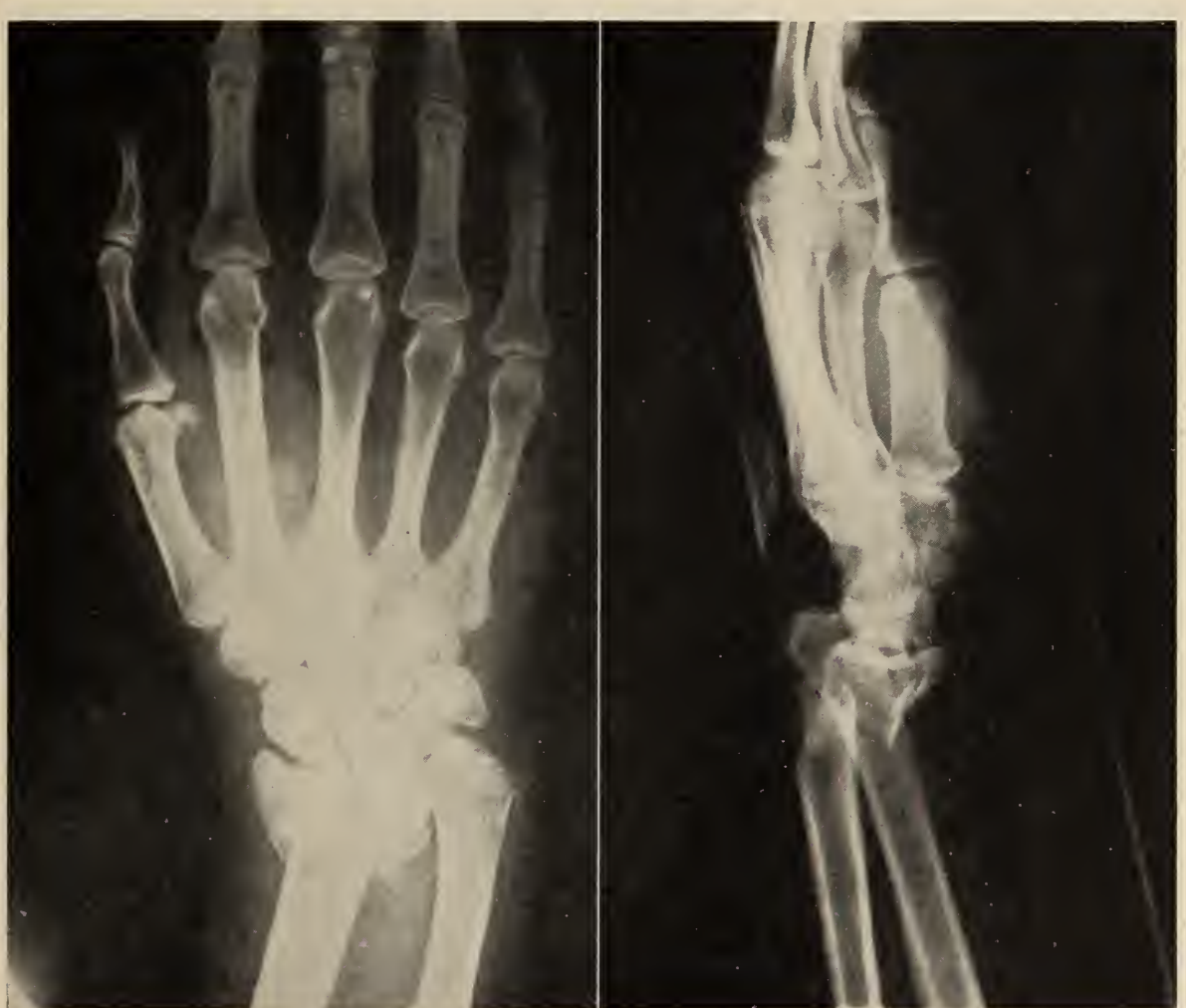


Figure 7.—*(Left):* Case 2. Note, severe comminution, shortening, and radial shift, but no fraeture of the ulna. *(Right):* Lateral projection, showing a free segment of radius lying over the metaearpal shaft in subcutaneous region.

In three of the cases in which closed reduction was carried out there was so much deformity that reconstructive surgical procedure was necessary to provide a satisfactory wrist. Two of the patients had resection of the distal end of the ulna (Figure 2). The third had a cuff resection of a portion of the ulna, an operation described by Sauve and Kapandji[12] (Figure 3). This latter procedure is a very useful one if the degree of shortening of the radial fragment is not excessive, because it does eliminate the factor of pain in the distal radio-ulnar joint without causing cosmetic deformity of the wrist joint proper.

DIFFICULT AND INVOLVED COLLES' FRACTURES

In 19 cases there was extensive comminution of the distal end of the radius. From previous experience it was felt that any attempt to hold these fractures by closed means alone could only result in severe, crippling deformities that would necessitate major surgical intervention later. Therefore the patients were operated upon shortly after injury and a fixed skeletal traction apparatus was applied. The apparatus used was made up of the dental elements of an external Roger Anderson[1] fixation splint (Figure 4). At first the method was used only in extreme cases, but the results obtained were so satisfactory that the number of patients so treated was increased as time went on. The authors wish to emphasize the need for traction in all cases of comminuted Smith fracture (reverse Colles').

The operative procedure demands the same care and preparation as that required for any major orthopedic operation. The splint is applied with strict aseptic precautions under general anesthesia in an operating room. Two pins are obliquely placed through the shaft of the second metacarpal, and two pins are placed obliquely through the bare area on the shaft of the radius proximal to the site of fracture. The apparatus is adjusted and a closed reduction done. The apparatus is tightened while the reduction is being maintained manually. X-ray films are obtained immediately and if any adjustment of position of the fracture fragments is necessary it is done at that time. Adequate length in the anteroposterior projection is mandatory. In the lateral projection, a vertical position of the articular surface of the radius is accepted because it has been found impossible to rotate a mass of comminuted fragments of bone into a position of volar angulation. The pinholes are carefully dressed and the whole apparatus covered with sterile sheet wadding. Because there is movement of the skin near the proximal pin, a plaster covering extending above the elbow is applied in order to obviate irritation at that site and the possibility of pin tract infection.

At the end of three weeks the original cast is removed and replaced by a forearm covering of plaster. This is worn until such time as x-ray studies show evidence of adequate bone union at the site of fracture. If the union is precarious, the splint should be left in place for as long as eight to ten weeks' time. Premature removal of the splint can result in prompt loss of position of fragments. Full function of the hand, elbow, and shoulder is maintained at all times.

Despite the severity of the 19 cases treated by fixed skeletal traction, the results, anatomic and functional, were better in this group than they were in the group in which closed reduction alone was used.

The grades for anatomic results were: in two cases, 2; in 13 cases, 3; in four cases, 4. Functional results were: in nine cases, 3; in ten cases, 4.

Physiologieal age and economie need are the main factors taken into consideration in choosing patients to be treated by this method. The main aim has been to prevent deformity in patients who have a moderate life expectancy and who must return to some form of productive work. Sixteen of the 19 patients were less than 60 years of age.

CASE REPORTS

CASE 1: The patient, a man 60 years of age, had sustained a severe comminuted Colles' fracture of the left wrist (Figure 5). Two days later closed reduction was carried out and a fixed skeletal splint applied (Figure 1). A long arm cast was used for three weeks and a short arm cast for another month. The fixation pins then were removed and a short arm cast was continued for an additional four weeks. The end result is shown in Figure 6.

* * *

CASE 2: A woman 27 years of age entered San Francisco Hospital with multiple fractures received in a fall from a considerable height. The distal shaft of the left radius was severely comminuted (Figure 7, left). A loose fragment of the radius which measured about 2 cm. in length was found lying subcutaneously near the base of the metacarpal bones (Figure 7, right). An external skeletal splint was applied

Figure 8.—Case 2. End result, seven months. Solid healing of fracture. Note, slight radial shift persisting. Anatomical result rated 75 per cent of normal. Functional result excellent except for loss of 50 per cent supination.

and a closed reduction of a fracture of the wrist was carried out. The free fragment of radius was excised. Skeletal traction was continued for seven weeks and a short arm plaster cast was used for another six weeks. The end result, seven months after injury, is shown in Figure 8.

* * *

Case 3: A 49-year-old man had a severe comminuted fracture of the distal end of the left radius (Figure 9). An external skeletal fixation splint was applied on the date of injury in the usual manner. This was worn for six weeks, and a short arm plaster cast was worn for an additional four weeks. The patient was able to return to his regular work as a fireman, without disability, three and a half months after the injury occurred. The end result is shown in Figure 10.

* * *

Case 4: A 62-year-old housewife had an extremely severe comminuted fracture of the radius and the ulna (Figure 11). There was an excessive amount of soft tissue swelling. An attempt at closed reduction was made and the arm was elevated until the swelling subsided. As it was felt that satisfactory position could not be maintained, an external skeletal fixation splint was applied and the fracture of the radius was

Figure 9.—Case 3. Note, severe comminution of the radius with shortening and carpal shift. No fracture of the ulna.

Figure 10.—Case 3. End result, nine months. Anterior-posterior, excellent alignment. Almost normal relationship of the distal radio-ulnar joint. Lateral projection, slight dorsal tilt of the articular surface of the radius. Full work capacity as a fireman.

Figure 11.—Case 4. Note, extreme comminution of both the radius and ulna: A completely unstable fracture.

Figure 12.—Case 4. Primary resection of the distal end of the ulna.

Figure 13.—End result, nine months later. Excellent alignment and length of the radius. Normal function except for a 25 per cent loss of the ability to grip.

reduced by closed means. The alignment of the radius then was considered quite satisfactory. The fragment of the ulna could not be kept in adequate position and, furthermore, trouble was anticipated because of gross disturbance at the distal radio-ulnar joint. Therefore, primary resection of the fragment of the ulna was done (Figure 12) two weeks after the skeletal splint was applied. The operative wound healed without incident. The skeletal traction was maintained for another two months, and a short forearm cast was worn for an additional four weeks. When last observed, seven months later, the patient had normal range of motion in the wrist and, except for slight weakness in gripping power, there was no residual disability (Figure 13).

REFERENCES

1. Anderson, R., and O'Neil, C.: Comminuted fractures of distal end of radius, Surg., Gyn., and Obst., 78:434, April 1944.

2. Baker, L. D., and Schaubel, H. J.: Complications of Colles' fractures, N. Carolina M. J., 7:457, Sept. 1946.

3. Bartels, W. W.: Management of Colles' fracture and its complications, Neb. M. J., 33:18, Jan. 1948.

4. Campbell, W. C.: Malunited Colles' fractures, J.A.M.A., 109:1105, 1937.

5. Colles, A.: On the fracture of the carpal extremity of the radius, Edinburgh Med. and Surg. Jour., 10:182, 1814.

6. Darrach, W.: Anterior dislocation of the head of the ulna, Ann. Surg., 56:802, 1912.

7. Darrach, W.: Colles' fracture, N.E.J. Med., 226:594, April 1942.

8. Hobart, M. H., and Kraft, G. L.: Malunited Colles' fracture, Am. J. Surg., 53:55, July 1941.

9. Milch, H.: Cuff resection of ulna for malunited Colles' fractures, J. Bone and Joint Surg., 23:311, April 1941.

10. Murray, D. A.: Treatment of fractures of carpal end of radius by traction, Am. J. Surg., 44:135, April 1939.

11. Rogers, S. C.: Analysis of Colles' fracture, Brit. M. J., 1:807, June 17, 1944.

12. Sauvé and Kapandji: Nouvelle technique de traitement chirurgical des luxations recidivantes isolies de l'extremitie inferieure du cubitus, J. de Chir., 47:589, 1936.

13. Speed, J. S., and Knight, R. A.: Treatment of malunited Colles' fractures, J. Bone and Joint Surg., 27:361, July 1945.

14. Taylor, G. W., and Parsons, L.: The role of the discus articularis in Colles' fracture, J. of Bone and Joint Surg., 36:149, Jan. 1938.

Immunization with Influenza Virus Vaccines

Sam S. Woolington, M.D., *Long Beach*

SUMMARY

Routine immunization against virus influenza is not recommended at this time because of the appearance of new strains not included in present-day vaccines. As more strains of the virus are included in this vaccine, its efficiency is being improved. Vaccination of adults and children is discussed. Final judgment must await further laboratory and clinical investigation.

ACTIVE immunization against viral influenza does not have the support of a majority of clinicians today, for two principal reasons. First, there is little or no cross-immunity between different strains of the virus and new strains are appearing from time to time which are not affected by commercially available vaccines. Second, in a large majority of cases the disease lasts only two to four days and patients recover rapidly with few complications. However, it should not be overlooked that influenza is still the seventh leading cause of death in the United States.[12] What effect the new antibiotics will have in control of this disease is not apparent at present.

Modern knowledge of the influenzal group of viruses began with the isolation of Influenza A from the throat washings of patients by Smith, Andrewes, and Laidlaw in England in 1933.[21] These investigators also proved that neutralizing antibodies against the virus developed during convalescence from influenza.[3]

The initial discovery of the influenza virus was confirmed by Francis[7] in 1934, and with the aid of an accurate neutralization test in 1935 he was able to show that British W.S. strain, the Puerto Rican PR8 strain and the Philadelphia strain were immunologically similar.[8] In 1935 Smith, Andrewes and Laidlaw[22] reported that ferrets and mice could be infected only by way of the respiratory tract and not by injection, and this fact laid the groundwork for the first successful vaccination of mice by Francis and Magill.[10] The studies of Burnet[5] (1935), showing that influenza virus could be adapted to grow on the chorioallantoic membrane of hens' eggs, made possible the commercial production of influenzal vaccines in large quantities.

In 1936 Smith[20] developed a complement fixation test for the determination of antibodies. During the period from 1936 to 1940 numerous vaccines were developed against influenza, but none were sufficiently concentrated to induce satisfactory immunity. In 1940, Francis[9] and Magill.[15] working independently, recovered a new virus which was named Influenza B. Then, in 1941, Hirst[14] revolutionized laboratory studies of the influenza virus with the introduction of a red blood cell agglutination test for the rapid identification of the different strains of the influenza virus.

In 1943 the Army Commission on Influenza,[6] using a concentrated mixed vaccine prepared by Francis and Salk, and containing the PR8 and Weiss strains of A virus and the Lee strain of B virus, began the vaccination of controlled groups. A well controlled experiment was conducted in the Army Student Training Program units in nine university centers. Between October 19 and December 4 in 1943 a total of 6,263 students were vaccinated with a single dose of 1 cc. of a formalized allantoic fluid eluate, Type A and B, 10 times concentrated, containing the previously mentioned three strains—two of A and one of B. At the same time, 6,211 comparable alternate controls were injected with a similar material but containing no virus vaccine. Epidemics of Influenza A developed at all of these institutions in late November and early December, and the incidence of influenza in the vaccinated group was 2.22 per cent and in the control group it was 7.11 per cent. Expressed in another way, 76.2 per cent of all cases occurred in the control group. Similar but even more striking results were obtained in another study during an epidemic of Influenza B at Michigan, Yale and Alabama universities in 1945. Using approximately 1,000 vaccinated students and 2,000 controls, the incidence of Influenza B was as follows: In the vaccinated group, 1.15 per cent; in the control group, 9.91 per cent.

After these encouraging results, the pendulum began to swing the other way and clinical experiments were reported by Smadel[19] in 1947, Van Ravenswaay[23] in 1948, and Sigel[18] and co-workers in 1948. They carried out well controlled vaccination studies, but little or no reduction of the influenza attack rate was noted in the vaccinated groups. It was then shown that new strains of the Influenza A and B viruses were culpable and although the vaccinated persons could be shown to have high and presumably protective blood titres of antibody against the strain used in preparation of the vaccine, there was no evidence of cross-immunity against the new strains. In 1949 Andrewes[1] pointed out that almost all the Influenza A outbreaks since 1947 were associated with the apparently novel A-prime strains. The older W.S. and PR8 strains seem to

Presented as part of a panel discussion on What's New in Pediatrics before the Section on Pediatrics at the 79th Annual Session of the California Medical Association, April 30-May 3, 1950, San Diego.

have become practically dormant, yet all the commercially available mixed influenza virus vaccines on the market today contain the PR8 strain.

Consideration of certain characteristics of the influenza virus may be of help to a better understanding of the problems of preparing a successful vaccine. The influenza virus does not commonly invade the blood stream as do the viruses of measles and yellow fever, for example, which tend to produce life-long immunity. Influenza is characterized by symptoms that are predominantly constitutional —namely, chills, fever, headache, malaise, and muscular aches and pains—although the infection itself is limited to the respiratory tract. Henle and Henle[13] in 1946 showed that the influenza virus has a toxin-like action demonstrable in mice and rabbits. Andrewes[2] pointed out that it may be possible by minimal treatment with ultraviolet irradiation to destroy infectivity while retaining some toxicity. He also suggested the interesting theory that because the influenza virus can attack through the exposed surface of mucous membranes and does not have to run the gantlet of the antibodies and leukocytes in the blood, a subject may be completely vulnerable even a short time after a previous infection.

Considerable attention has been directed in the past few years to the problem of immunizing children with influenza virus vaccines. Francis and Magill[11] and Rickard and Horsfall found that the serum of the newborn infant has about the same antibody titre as that of its mother. This titre falls rapidly after the first month of life until the infant is one to two years of age. Then it begins to rise again, reaching a maximum after 20 years of age. In a study by Peterman and Kores,[16] a majority of children in the series (including 16 under two years of age) had at least a fourfold increase in the amount of serum antibodies following intracutaneous injection of influenza vaccine. It was noted also that the incidence of systemic reactions in children was much less when the vaccine was administered intracutaneously than it was when the subcutaneous route was used. These findings agreed with those of Bruyn, Meiklejohn and Brainerd,[4] who concluded that intracutaneous inoculation is the method of choice for children.

As the incidence of influenza usually reaches its peak in December and January, and as the immunity produced by present-day commercially available vaccines can be expected to protect a majority of vaccinated individuals against the strains included in the vaccine for a period of four to five months, the logical time of the year for vaccination would appear to be in October. Full development of immunity requires a period of two to four weeks. Influenza virus vaccines Types A and B should be used for immunization rather than either type alone.

The adult immunizing dose is a single cubic centimeter injected subcutaneously. A suggested schedule for children is two doses of 0.1 cc. each, given intracutaneously three days apart.[4]

All the commercial vaccines today are prepared from the allantoic fluid of infected chick embryos, and persons who are hypersensitive to egg should be skin tested before immunization. Final judgment concerning the efficacy of influenzal vaccination must await further research in the laboratory and in the field.

541 East Broadway.

REFERENCES

1. Andrewes, C. H.: Adventures among viruses. II. Epidemic influenza, New Engl. J. Med., 242:197, Feb. 9, 1950.

2. Andrewes, C. H.: Ibid.

3. Andrewes, C. H., Laidlaw, P. P., and Smith, W.: Influenza: Observations on the recovery of virus from man and on the antibody content of human sera, Brit. J. Exper. Path., 16:566, 1935.

4. Bruyn, H. B., Meiklejohn, G., and Brainerd, H.: Influenza vaccine: A study of serologic responses and incidence of reactions following subcutaneous and intradermal inoculation, Amer. J. Dis. Child., 77:149, Feb. 1949.

5. Burnet, F. M.: Propagation of the virus of epidemic influenza on the developing egg, M. J. Australia, 2:687, 1935.

6. Commission on Influenza, Board for the Investigation and Control of Influenza and Other Epidemic Diseases in the Army, Preventive Medicine Service, Office of The Surgeon General, United States Army: A clinical evaluation of vaccination against influenza, J.A.M.A., 124:982, April 1, 1944.

7. Francis, T., Jr.: Transmission of influenza by a filterable virus, Science, 80:457, 1934.

8. Francis, T., Jr.: Immunological relationships of strains of filterable virus recovered from cases of human influenza, Proc. Soc. Exper. Biol. & Med., 32:1172, 1935.

9. Francis, T., Jr.: A new type of virus from epidemic influenza, Science, 92:405, Nov. 1, 1940.

10. Francis, T., Jr., and Magill, T. P.: Immunological studies with the virus of influenza, J. Exper. Med., 62:505, 1935.

11. Francis, T., Jr., and Magill, T. P.: Incidence of neutralizing antibodies for human influenza virus in serum of human individuals of different ages, J. Exper. Med., 63:655, 1936.

12. Government Services Section: Leading causes of death in the United States, J.A.M.A., 142:39, Jan. 7, 1950.

13. Henle, W., and Henle, G.: Studies on toxicity of influenza viruses, J. Bact., 51:632, 1946.

14. Hirst, G. K.: The agglutination of red cells by allantoic fluid of chick embryos infected with influenza virus, Science, 94:22, July 4, 1941.

15. Magill, T. P.: A virus from cases of influenza-like upper respiratory infection, Proc. Soc. Exper. Biol. & Med., 45:162, Oct. 1940.

16. Peterman, M. G., and Kores, V.: Influenzal vaccination in infants and children, Pediatrics, 4:337, Sept. 1949.

17. Rickard, E. R., and Horsfall, F. L., Jr.: Relationship between neutralizing antibodies against influenza A virus in sera of mothers and infants, J. Immunol., 42:267, Nov. 1941.

18. Sigel, M. M., et al.: Influenza A in a vaccinated population, J.A.M.A., 136:437, Feb. 14, 1948.

19. Smadel, J. E.: Research in virus diseases, Bull. U. S. Army M. Dept., 7:795, Sept. 1947.

20. Smith, W.: The complement-fixation reaction in influenza, Lancet, 2:1256, 1936.

21. Smith, W., Andrewes, C. H., and Laidlaw, P. P.: A virus obtained from influenza patients, Lancet, 2:66, 1933.

22. Smith, W., Andrewes, C. H., and Laidlaw, P. P.: Influenza; experiments on the immunization of ferrets and mice, Brit. J. Exper. Path., 16:291, 1935.

23. Van Ravenswaay, A. C.: Prophylactic use of influenza virus vaccine, J.A.M.A., 136:435, Feb. 14, 1948.

The Concept of Continuation Education in Medicine

Franklin D. Murphy, M.D., *Kansas City, Kansas*

SUMMARY

The rapid increase in quantity and complexity of medical knowledge requires a redefinition of the educational aims of schools of medicine. The four formal years in medical school must be regarded as only the first four years of a "forty-year medical educational experience" and these four years must be devoted in the main to teaching principles of health and disease. There, then, must follow well-planned, realistic programs of continuation education, not in lieu of, but in addition to already established formal programs of postgraduate education.

MEDICAL education beyond graduation from medical school is often unorganized and in some instances as unrealistic as undergraduate medical education was 50 years ago. Shortly after the turn of the century, leaders in the medical profession took cognizance of the fact that medical knowledge had clearly outstripped educational techniques, and from their concern grew the now famous Flexner survey and report. This effort focused a spotlight on our educational weaknesses, and drastic steps were taken to modify the activities of the schools to the demands and needs of the time. We have seen the development of the four-year medical school with an organized curriculum designed to integrate the medical sciences with their clinical application. Whatever be the errors and omissions of our present undergraduate medical educational pattern, and there are certainly some, the fact remains that the modern American medical school is delivering to the American public a practitioner whose increased skill has effectively paralleled advances in medical knowledge and who, in my opinion, stands well in the forefront of his fellow practitioners over the globe. I would like to emphasize that the remarkable increases in longevity and reductions in death rates in many diseases are not due entirely to the x-ray, antibiotics, and all of the other effective tools which have come from the productive research laboratories. I believe the crucial fact to be that these tools were handed by the research scientist to the practicing physician whose basic education has been so sound that he has been able to translate the effectiveness of these tools into immediate benefits for the public.

Medical science and medical knowledge continue to expand at a rate that astonishes even the medical profession. Who would have thought 20 years ago that today we would be operating with relative impunity on the heart itself? What vistas will the diagnostic and therapeutic application of the products of atomic energy open? It seems clear to many of us in medical education that the function of the school of medicine and its undergraduate curriculum must be redefined in terms of the needs of the middle of the twentieth century. The medical schools certainly cannot be all things to all people and I believe we are fooling ourselves if we think that the conventional four-year curriculum will result in a "compleat" physician. It is my opinion that we must now think of the "forty-year educational experience," only the first four years of which are spent in continuous residence in the school of medicine. These first four years must be designed to provide the physician with a basic foundation—principles, if you will—on which he may continue to build during the remainder of his professional life. I am much more interested in seeing that a medical student understand the basic action of a particular drug than that he be familiar with which drug company sells what brand. If the student has the idea that he has only four years in which to learn all of the things that will make him a finished physician, he is inevitably going to seek practicality at the expense of a firm and strong scientific foundation. If, on the other hand, he can be indoctrinated with the idea of continuing medical education, it will be much easier for him to understand the need for basic physiology, pharmacology, biochemistry, etc.

The expansion and increasing complexities of medical knowledge associated with the increasing demands for more and better medical service on the part of the American public make for a situation which cannot be resolved by occasional medical meetings or any number of medical journals. Those concerned with medical education must construct realistic, organized programs of high quality designed to satisfy the desire of the practitioner to maintain his professional excellence and designed to cover all types of practitioners of medicine no matter where they be located. As I conceive it, then, continuation education in medicine implies (1) the indoctrination of the medical student with the 40-year educational concept so that there is a high sense of obligation on his part to participate in continuing education and (2) the development of organized programs designed to effectively answer the needs of the practitioner.

The greatest impetus for training programs in medicine beyond the internship has been the development of the various American boards in the many specialty fields. There is no question that the enlightened and vigorous activities of these boards has led to a higher standard of medical practice. Certainly at a time when the schools of medicine were, in my opinion, defaulting on their respon-

Dean of the University of Kansas School of Medicine.

Guest speaker's address delivered before the First General Meeting of the 79th Annual Session of the California Medical Association, April 30-May 3, 1950, San Diego.

sibilities in postgraduate education, the development of the board certifying group represented the major active effort in recognizing the educational needs of an expanding medical knowledge. Without in any sense wishing to minimize the contributions to medical education and medical practice made by the American boards, I must express my concern about certain aspects of these programs. In the first place, and this perhaps was to be expected, all too often do we now see young men to whom board certification is no longer the means to the end of greater ability but rather the end itself. Too many students today are more concerned over whether or not a certain program will lead to board certification than whether the program provides them with the skills which they will require in their own practice. Although I recognize the need for accreditation as a principle, I am also greatly worried lest the tyranny of fixed programs based upon the formula of accrediting bodies devitalize and make less dynamic the program itself.

My second concern is based upon the firm conviction that the academic formula is of little value unless it maintains its touch with reality. As educators we dare not let ourselves become dissociated from the needs of the public. It is stated that between 70 and 80 per cent of the medical care provided in this country is delivered by the man in general practice; and yet, exclusive of the internship, probably 70 to 80 per cent of the postgraduate effort until recently has been focused upon the specialist. Surely such pronounced dislocation of teaching effort and the realities of practice is wrong. What, then, can be done to correct this disproportion and thereby devote to the man who takes care of 80 per cent of the ills of the nation the appropriate amount of graduate teaching time?

The guiding principle in answer to this question, I believe, is that two wrongs do not make a right. That is to say, we dare not reduce the quality and effectiveness of our resident teaching in the specialties. Highly skilled specialists of many types will continue to be needed and resident training programs for the physician who has chosen this future should continue to be strengthened and improved in quality. However, there must now be added to our postgraduate effort effective, well-organized and well-designed curricula for the person who has been called the quarterback of the medical team, namely the family practitioner. The general practitioners themselves have realized this and it is to their great credit that their national organization requires, for continuing membership, evidence of organized postgraduate study at stated intervals. It is the only such organization in medicine which to my knowledge has officially recognized the necessity of continuing education.

Postgraduate programs for the physician in family or general practice are in existence in many parts of the country and are of many types. However, in order to focus my remarks more sharply, I would like to describe briefly the concept of continuation education which we have been developing in Kansas for the past several years, and a program which appears to us to be workable and realistic. We realize, of course, that there are still certain deficiencies which need time, experience, and funds for correction. I should point out that the program to be described is in addition to resident training programs in the specialties, for we also recognize our obligation to continue to provide for our area skilled practitioners in the special branches of medicine.

At the outset let me note that ours is a combined effort. The basic decisions are made annually by a committee whose membership consists of representatives from the University of Kansas School of Medicine, the Kansas Medical Society, and the Kansas State Board of Health. This committee determines the general subjects to be covered each year in the various parts of the program and provides an excellent mechanism for determining the needs and desires of the practitioner of medicine in our general area. Administrative leadership is provided by the medical school through the combined efforts of the extension division of the University and the department of postgraduate medicine of the Medical School. There are three general types of programs now in operation.

The first of these is the so-called three- to four-day refresher course. These courses are held monthly or oftener at the School of Medicine in Kansas City. The content of each course is concerned with one particular field of medicine, such as surgery, obstetrics and gynecology, or internal medicine. The faculty for these courses consists of three types of persons: (1) Two or three experts in the particular field to be covered, drawn from various parts of the country, (2) members of our own medical school faculty, and (3) two or three practitioners from within our own state who are particularly qualified. This latter group has been found to be very valuable in leavening the content of the program. The faculty for each program is chosen by the chairman of the appropriate department in the medical school. The departmental chairman also has the obligation of suggesting specific topics in the program so there is a certain logical thread of continuity through it. Abstracts of all of the papers given are submitted to the department of postgraduate medicine well in advance of the course so that each registrant at the course receives on the first day of the program a bound copy of all of the material to be presented. Fees for these refresher courses range from $15 to $25 per course. No fee is charged the intern or resident. It should be noted at this point, that recognizing that medical service today represents the combined efforts of a team of experts, we also carry on refresher courses for such persons as public health officers, medical technicians, nurses, hospital dietitians, and hospital administrators. These courses are open to all qualified persons whether they reside in the state or not.

A modification of the courses held at the medical school are the so-called continuation courses which represent a full day's program each week for six to

eight weeks. They are held in such fields as roentgenological physics, surgical pathology, and heart and circulation. The faculty for these courses is picked much as is the faculty for the previously mentioned four-day refresher courses. The guest lecturers receive reasonable compensation as well as their expenses.

The second basic type of continuation study is the so-called circuit course program. Eight communities in the state of Kansas picked for their strategic geographical location have been designated as circuit course centers and these are divided into two circuits of four towns each. Monthly a team of two physicians, usually one member chosen from our faculty and one member a skilled practitioner of medicine in our state, go out on this circuit, appearing in each of the four towns on the circuit on consecutive days. The meetings usually consist of an afternoon session, dinner, and an evening session. At the same time that one team is traveling one circuit, another team of two physicians is appearing on the second circuit. The teams shift to the opposite circuit the following month. In the third month two new teams of physicians go out on the circuits, and on the fourth month they also shift. The circuit courses at present cover six months of the year. The material chosen to be covered in these courses is specific in nature, such as "Modern Advances in the Treatment of Diabetes" and "Office Procedures in Urology." Great emphasis is laid upon the use of visual education (sound movies, slides, etc.). It is extremely important that the student-physician's time not be wasted and this can be accomplished, in our experience, only with prepared material. As in the refresher courses, bound copies of abstracts of the talks on the circuit courses are made available to the registrants. The fee for the circuit course averages in the neighborhood of $25 for the full series of six programs. The circuit course program has become one of the most popular efforts of the medical school, and each year there has been a substantial growth in the number of registrants and in the enthusiasm of physicians for it. One interesting by-product has been that a number of county medical societies have planned their business meetings on the morning of the day of the circuit course and have utilized the circuit course program for their scientific county society meeting.

The third main continuation effort is barely under way in our institution, but to many of us it appears to be the most important in many respects. This, for want of a better term, we have called "in-residence" training for the man in general practice. It implies a period of residence in the medical school of not less than four weeks and up to a full year. It is designed to provide organized training in one or more branches of medicine for the young man who has entered general practice after not more than a two-year rotating internship. For example, a physician doing general practice in association with one or more colleagues may find that he is being asked to do more and more of the diagnostic radiologic studies. If he is to do justice to his obligation he must have something more than easy consultant access to a qualified radiologist; he must have the opportunity to sharpen certain skills in this field. Regardless of sincere claims as to the undesirability of a man doing diagnostic x-ray work without a three-year residency, the realities of the situation are that a great amount of diagnostic radiology is being done by just such persons. It is my contention that we must take cognizance of such realities and try to provide limited organized training. Of course, one must be certain that such a program does not interfere with the already existent resident training schedules.

We have asked our departmental chairmen to design suitable programs within their various departments, and they are the ones who determine how many student-physicians may be in-residence in their particular department at any one time and the length and character of the program. The only thing that the dean's office asks is that the curricula provide a good measure of what we have called "laying on of the hands" training. The fees scheduled are $50 per month for residents of the state of Kansas and $100 for the non-residents. The basic limitation for the expansion of such a program is obviously the size of the physical facility and the available teaching staff.

It must be evident that programs of the type described require considerable personnel as well as financing if they are to be truly effective. We have been able to finance the main part of our effort through a specially designated state appropriation supplemented by fees collected for the various courses. In rare instances small subsidies from certain organizations have been available. However, one should be realistic about the abilities of a medical school to suddenly take on a substantial postgraduate obligation. Most schools today are stretched to the limit of their capacities and many are having basic financial difficulties. To add an extensive program of postgraduate medicine in some instances will nearly double the teaching obligations of an institution, for the basic undergraduate program must not be compromised. We are by no means satisfied with our present system of continuation education, but improvement will depend on additional funds, and the costs may be largely hidden for they will be represented by additions to the full-time faculty of the school of medicine.

Recognizing this problem, some medical schools have purposely divorced the postgraduate effort from the undergraduate school and have organized special postgraduate schools of medicine. This concept has merit but I personally should prefer to keep the whole program under one roof for purposes of coordination and avoidance of duplication. However, boards of trustees and state legislatures must be led to understand very clearly that the increased costs attendant on such a program do not represent increased expense of undergraduate medical education but reflect a necessary extension of the overall educational program of the school.

The Medical Center.

Hysterectomy—Total or Subtotal for Benign Lesions

Donald A. Dallas, M.D., *San Francisco*

SUMMARY

With careful use of a suggested technique for total hysterectomy which has been developed and used over a period of 20 years, the mortality rate associated with the operation need be no greater than that for subtotal hysterectomy. Moreover, the results obtained with it overcome many of the objections which advocates of subtotal hysterectomy raise against the routine use of the more extensive operation. At the same time none of the advantages of total hysterectomy are surrendered.

FOR many years there has been a pronounced difference of opinion in the medical profession with regard to the type of hysterectomy which should be done for benign lesions of the pelvis. The great majority of gynecologists who have written on the subject in the last 20 years favor the total operation whenever it is feasible. A small minority believe that the routine use of total hysterectomy is a mistake and that the subtotal operation is much more satisfactory except in cases in which the cervix is grossly diseased. All agree that the total operation should be done if malignant disease is present in the ovaries, in the body of the uterus, or in the fallopian tubes.

This problem is one which comes up for discussion frequently on the Stanford gynecological service at the San Francisco City and County Hospital. This service has been used for many years as the minor teaching unit of the department of obstetrics and gynecology of the Stanford University School of Medicine. The visiting staff is made up of members of the clinical faculty of the school. Most of the members of the staff are graduates of the Stanford School of Medicine who also received most of their postgraduate training there. Yet, within this group of physicians whose training has been almost identical there is no agreement on this important subject. A considerable amount of confusion amongst medical students, interns, and house officers results when one staff member recommends total hysterectomy as the treatment of choice for a patient, only to have another member disagree and recommend subtotal hysterectomy.

As there must be some reason for this honest difference of opinion, this presentation will discuss the points that are brought up whenever this controversy arises, describe briefly a technique of total hysterectomy that has been used by some of the members of the staff on the service as well as in private practice for many years, point out a few steps in techniques which may eliminate some of the dissatisfaction with the total operation, discuss briefly the mortality rates associated with the two methods, and present the conclusions of the author.

The proponents of total hysterectomy base their preference on the following points:[2, 4, 5, 9, 11]

1. Subsequent carcinoma of the cervix is eliminated.

2. Vaginal discharge is almost never a troublesome symptom following operation, as it frequently is following subtotal hysterectomy.

3. Irregular bleeding and spotting does not occur as it frequently does following the subtotal operation.

4. A greatly increased chance of complete cure is to be expected in those cases in which carcinoma is unexpectedly found on microscopic examination of the ovaries, fallopian tubes or body of the uterus removed at operation.

5. Carcinoma of the cervix or carcinoma in situ is occasionally found in the apparently normal cervix.

6. The stump of the cervix may act as a focus of infection.

7. Prolapse of the vagina is less likely to occur due to the absence of the heavy cervix.

8. Drainage through the vaginal vault may at times be advantageous.

9. Postoperative mortality and morbidity rates need not be any higher than in subtotal hysterectomy.

10. Postoperative pulmonary emboli and thrombophlebitis are less frequent.

This is certainly an impressive list of reasons for the routine use of total hysterectomy. However, those who favor the subtotal operation are not convinced, and advance the following arguments against its routine use:[1, 3, 8]

1. The postoperative mortality in total hysterectomy in general throughout the country is from 1 per cent to 2 per cent higher than in subtotal hysterectomy.

2. The incidence of carcinoma of the cervix in the general population is only 0.2 per cent to 0.3 per cent. The incidence of cervical stump carcinoma is the same as in the general population. Therefore, all advantage of the total operation from this point of view is lost due to the higher mortality rate associated with it.

Chairman's address: Presented before the Section on Obstetrics and Gynecology at the 79th Annual Session, April 30-May 3, 1950, San Diego.

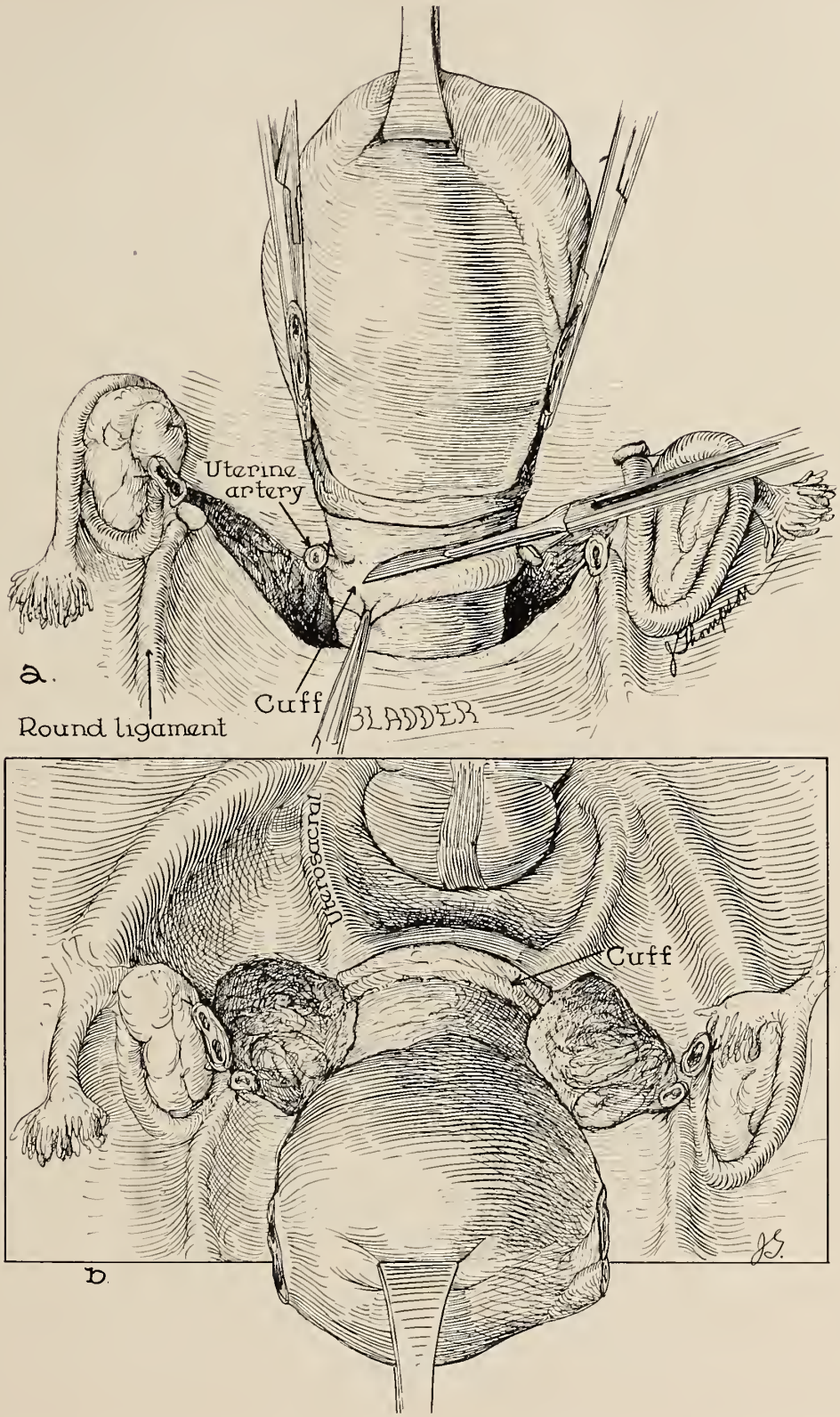


Plate 1.—(a) Beginning of the development of the cuff. Note that it is done with side of the knife blade while upward traction is made on uterus. The cuff is much thicker and more vascular than that utilized in other techniques. (b) Posterior view of cuff early in its development. Note that uterosacral ligaments are not clamped but later become part of cuff.

3. The vagina is frequently shortened as a result of total hysterectomy.

4. Patients frequently complain of dryness of the vagina following total hysterectomy.

5. The formation of scar tissue frequently results in a fixed and rigid vaginal vault which is often tender and painful.

6. Dyspareunia following operation is much more common.

7. Dysuria is a common postoperative symptom.

8. The psychological effect of total hysterectomy on the patient and/or her husband is often a considerable factor. Women of the type frequently treated in clinics and county hospitals who have not had many of the educational and cultural advantages of private patients often feel that they have been desexed. Their husbands sometimes feel that their wives are no longer feminine and refuse to have further sexual relations with them. They state that coitus is no longer satisfactory and they may soon begin to roam. (No reference to this point has been observed in the literature and the author has never heard it mentioned by patients in private practice, but it has been a factor in many cases at the San Francisco Hospital. The author considers this to be the strongest argument against total hysterectomy as a routine operation in unenlightened patients.)

9. Total hysterectomy is much more difficult to perform and is more time-consuming; blood loss is greater and shock is more likely to occur.

10. Contamination from the open vagina is almost unavoidable.

11. Injuries to the bladder, rectum and ureters are more common. Most of the vesicovaginal and urcterovaginal fistulae observed today are the result not of childbirth but of total hysterectomy.

12. Tying off of one or both ureters is much more liable to occur during total hysterectomy.

13. The operation is extremely difficult to carry

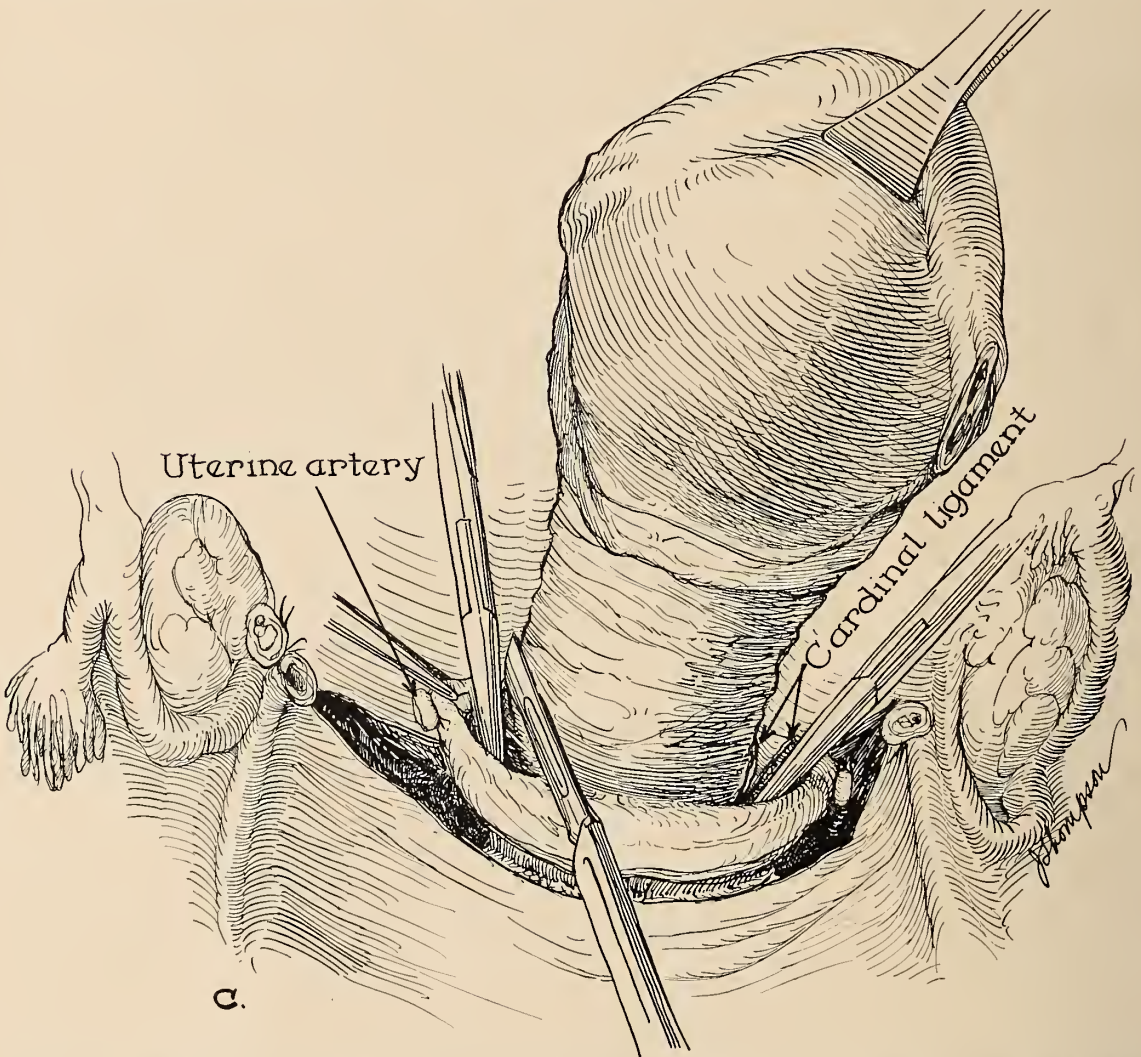


Plate 2.—(c) The cardinal ligaments are clamped inside the cuff. The clamps are placed as nearly parallel as possible to the cervix.

out in obese persons, in those with deep pelves, or in patients with dense adhesions due to endometriosis or pelvic inflammatory disease.

14. It is not a good operation for patients not in otherwise good health—that is, those with heart disease, pulmonary tuberculosis, hypertension, diabetes, etc.

TECHNIQUE FOR TOTAL HYSTERECTOMY

A technique by which total hysterectomy can be done with a very low mortality rate, and one which

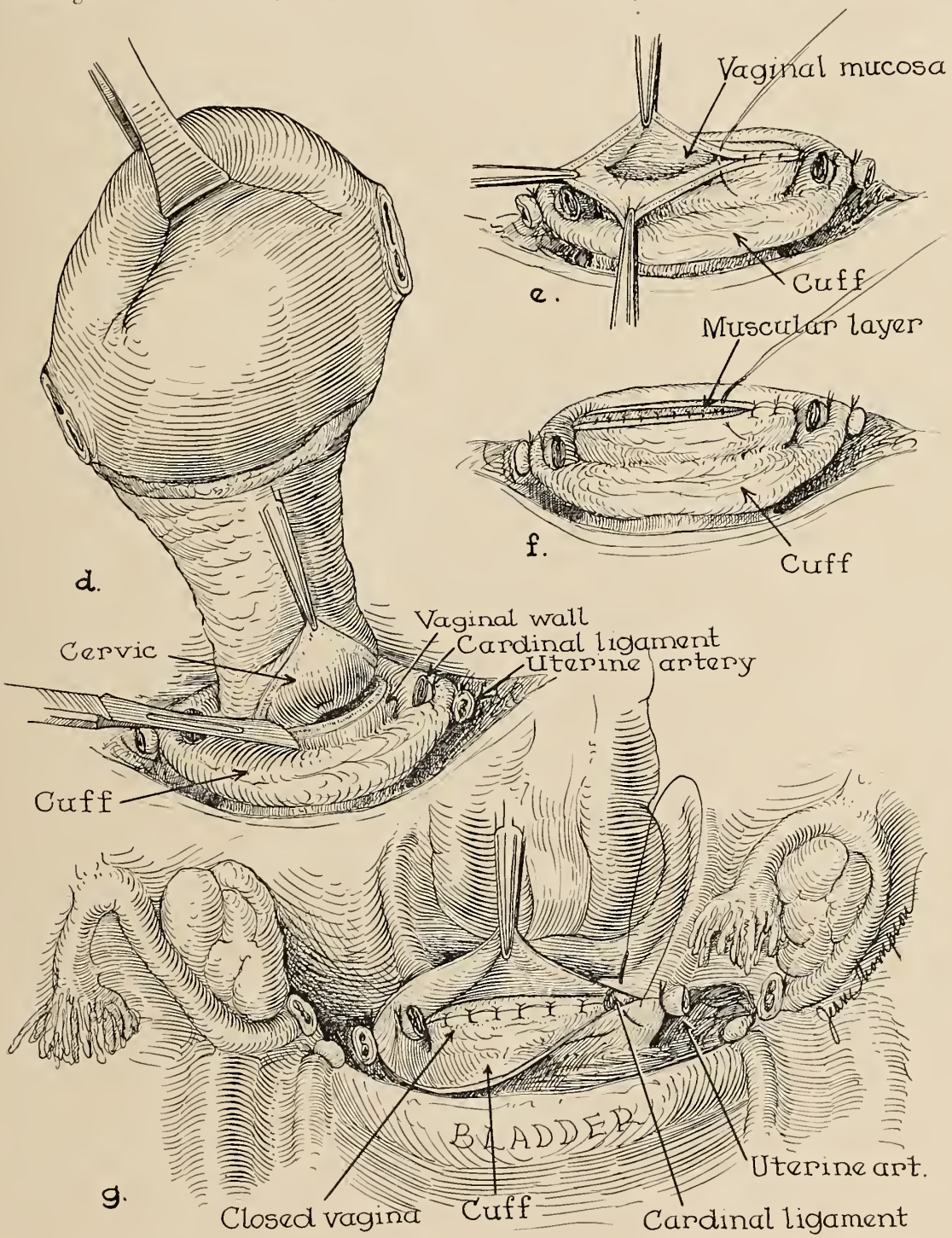


Plate 3.—(d) The vagina is opened anteriorly and cut around under vision as closely as possible to the cervix. (e) The vaginal mucosa is closed separately with interrupted fine chromic sutures. (f) The muscular layer of the vagina is also closed separately with interrupted fine chromic. Note thickness of cuff. (g) The cuff, including the cardinal and uterosacral ligaments, is closed with a loosely placed continuous plain suture. Dead space is eliminated by including the muscular coat of the vagina in several loops of the suture.

eliminates many of the faults charged to total hysterectomy, has been devised. The procedure is identical with that usually carried out, up to the point at which the uterine arteries are clamped, cut and ligated (the bladder having already been freed and pushed downward well below the cervix). At that stage, the uterus is grasped with a suitable instrument and fairly strong upward traction is made on it. Using a No. 21 Bard Parker knife blade on a long handle, an incision about 2 mm. deep is made completely around the cervix at the level of the severed uterine arteries. Continuing the upward traction on the uterus, a series of downward scraping movements with the side of the knife blade are made all the way around the cervix so that a cuff of fascia and superficial cervical tissue about 2 mm. thick is slowly developed. Using a straight Kocher clamp, the cardinal ligaments are clamped inside this cuff parallel with the cervix on each side. The ligaments are cut frec and ligated. The cuff is then further developed until the vagina is reached. This cuff is of a very vascular tissue (therein lies one of its chief merits) and it is usually necessary to ligate several fairly large vessels in it during development of it. The vagina is opened anteriorly at the very edge of the cervix and is cut around its entire circumference under vision without sacrificing any of its mucous membrane. The vaginal mucosa is then closed with meticulous care, using interrupted fine chromic sutures placed close to the margin so that the vagina is not shortened. The muscular layer of the vaginal wall is then similarly closed. The vascular cuff, including the cardinal ligaments, is then closed over the vault of the vagina by means of a loosely placed continuous plain suture. The stumps of the round and broad ligaments are left where they naturally lie and the pelvis is peritonealized utilizing the bladder peritoneum. This is done with a continuous fine plain suture placed so that the round and broad ligament stumps are inverted. The operation is then completed in the usual manner.

This technique has been slowly developed and used by some of the staff on the Stanford service at the San Francisco Hospital and in private practice for the last 20 years. (The author does not know who originated the method but himself learned the principles of it from the late Dr. A. V. Pettit.) It is tedious, time-consuming, and occasions somewhat more bleeding than do many other techniques which are widely used. Properly done, it eliminates several of the faults attributed to total hysterectomy as follows:

1. The vagina is not shortened.

2. Dryness of the vagina is rarely mentioned by the patient.

3. The vaginal vault is not fixed but is freely movable, pliable, and not tender. This is the result of not sacrificing any of the vaginal mucosa, of the meticulous care with which the vault is closed (which results in healing almost without scar formation), and of the excellent blood supply to the tissues about the vault supplied by the vascular cuff. There is no tension exerted on the vault by over-

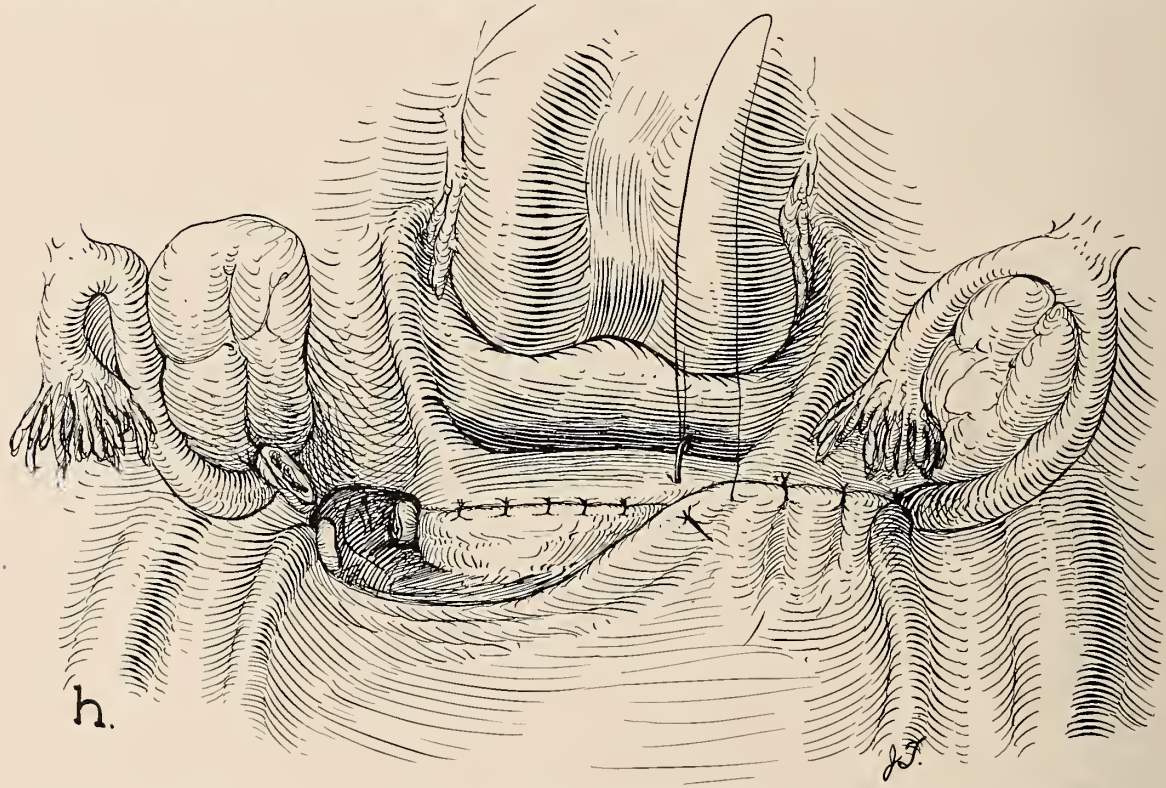


Plate 4.—(h) Raw surfaces are covered with peritoneum. The stumps of the round and broad ligaments are not sutured to the vagina but are left where they normally lie and are inverted by the peritonizing plain catgut suture.

stretched round ligaments. The ovaries are not attached to the vault in an abnormal position.

4. Dyspareunia as a postoperative complaint is almost unheard of.

5. Injuries to the bladder, ureters and rectum are unlikely, as they lie outside the cuff, well away from clamps and sutures.

6. Prolapse of the vagina has not occurred, to the author's knowledge, following the use of this technique.

7. The postoperative mortality rate is just as low as in subtotal hysterectomy.

8. Postoperative convalescence, using early ambulation, is remarkably rapid and smooth.

There are several points in technique which the author feels are extremely important in obtaining the best possible results in total hysterectomy for benign lesions:

1. The vagina should never be clamped across with any kind of clamp. This maneuver inevitably causes shortening of the vagina.

2. The vaginal mucosa should be closed separately with great care, using fine interrupted chromic sutures. The use of figure 8 sutures, purse-string sutures or tightly drawn continuous sutures results invariably in puckering of the vault with consequent shortening, scar tissue formation and fixation.

3. The stumps of the round ligaments should not be attached to the vault of the vagina if this puts any tension whatsoever upon the ligaments, as pain and dyspareunia are too liable to follow.

4. The ovaries, if not removed, should be allowed to remain in their normal position, and not fixed to the vaginal vault because this often interferes with their blood supply and places them in a position where they sometimes cause dyspareunia.

5. Clamping the cardinal ligaments inside the cuff or inside the uteropubic fascia as described by Judd[7] almost precludes injury to the ureters and bladder in this area. The development of a cuff or the separation of the uteropubic fascia is an extremely important safety measure, and one or the other should always be done except in the presence of malignant disease.

6. Careful preparation of the vagina just before operation is well worth while, and "spill" from the vagina can be prevented by grasping the edges of the cut vaginal mucosa with Allis forceps as the cervix is excised, thus keeping the vault of the vagina elevated. All contaminated instruments should be discarded.

7. The steps of the operation concerned with excision of the cervix and closure of the vault must be done deliberately, meticulously and without hurry.

The mortality rate associated with total hysterectomy the country over is probably at least 1 per cent higher than that of subtotal hysterectomy. The statement of the proponents of suhtotal hysterectomy, that the mortality rate of total hysterectomy exceeds the combined mortality rate of the suhtotal operation plus that of stump carcinoma, is probably true. That this need not be so is well known. The postoperative mortality rate of total hysterectomy has fallen steadily in the teaching clinics and in specialist practice until at present it is actually lower than the mortality rate for subtotal hysterectomy.[2] The mortality rate associated with total hysterectomy on the Stanford service at the San Francisco Hospital for the years 1932 to 1938 was 2.7 per cent. The mortality rate for subtotal hysterectomy for the same period was 1.6 per cent. A pronounced change has taken place since that time, however. The postoperative mortality rate for the total operation for the years 1944 to 1950 was 1.1 per cent, and for the subtotal operation, 1.4 per cent. The fact that the mortality rate for total hysterectomy was actually lower than that for subtotal hysterectomy was probably owing to the use of the subtotal operation in the extremely difficult cases. This improvement in the last decade was brought about by several factors. The liberal use of blood transfusion preoperatively, during operation and postoperatively was probably the most important factor. The sulfa drugs and the antibiotics have been used with great effectiveness and are a factor second only to blood transfusion. Great credit must be given to the anesthetists, whose methods have improved and whose skill has increased greatly. A very low mortality rate cannot be achieved in total hysterectomy without superior anesthesia. Proper preparation of the patient for operation, which may require weeks, and the intelligent evaluation of the temperature chart, leukocyte count and blood sedimentation rate are essential to a low mortality rate. This is especially true in county hospitals where pelvic inflammatory disease is the indication for hysterectomy in the great majority of cases. In private practice where pelvic infections are rarely a problem, the mortality rate for total hysterectomy should approach zero.

From the foregoing discussion, and from personal experience with the two types of operation, the author believes the following conclusions are warranted:

1. When properly carried out under excellent anesthesia in a well prepared patient, with adequate blood available for transfusion during and after operation, the mortality rate following total hysterectomy is no higher than that following subtotal hysterectomy. It is, therefore, one of the important measures at present available for prevention of carcinoma of the cervix.

2. When subtotal hysterectomy is elected, the burden of proof that malignant disease does not exist in the cervix, in the body of the uterus or in the adnexae rests entirely on the surgeon. It behooves the surgeon who prefers subtotal hysterectomy to do an extremely careful examination on the patient and to use vaginal smears and biopsy in almost every case before deciding on suhtotal hysterectomy as the operation of choice.

3. When total hysterectomy, using the technique described, can be done without undue risk to the patient, without danger of injury to other structures and without psychological damage to the patient or her husband, it will give a more satisfactory end result in the great majority of patients than will subtotal hysterectomy.

4. When during the course of a planned total hysterectomy for benign lesions it becomes apparent that removing the cervix will increase the risk to the life of the patient or endanger the integrity of the bladder, ureters or rectum, then the attempt to remove the cervix should be abandoned, and subtotal hysterectomy performed. Should the cervical stump subsequently be the source of troublesome symptoms, it can be removed through the vagina with practically no risk.

490 Post Street.

REFERENCES

1. Bello, E.: Should subtotal hysterectomy be preferred to total in cases of nonmalignant lesions? Jour. Internat. Coll. Surg., 10:129-134, Jan.-Feb. 1947.

2. Counseller, V. S.: Hysterectomy: Selection of appropriate operation in the particular case, Journal-Lancet, 65:26-29, Jan. 1945.

3. Feeney, J. K.: Observations on hysterectomy, Irish Jour. Med. Sc., 1-13, Jan. 1947.

4. Hunt, C. J.: Indications and advantages of complete abdominal hysterectomy vs. incomplete hysterectomy, Amer. Jour. Surg., 71:723-727, June, 1946.

5. Hyams, M. N.: Complete prolapse following hysterectomy, N. Y. State Jour. Med., 48:2581-2586, Dec. 1, 1948.

6. Jones, O.: Controversial details of complete hysterectomy, Texas State Jour. Med., 43:688-690, March 1948.

7. Judd, G. E.: Preservation of upper pelvic floor and bladder support in total hysterectomy, Western Jour. Surg., 55:209-219, April 1947.

8. Saegesser, F.: Cancer of the cervical stump after subtotal hysterectomy: Remarks on medical statistics, Gynaecologia, 123:89-107, Feb. 1947.

9. Smith, P. H.: Study of 1200 cases of hysterectomy, Amer. Jour. Obst. & Gyn., 40:118-123, July 1940.

10. Weir, W. C.: Statistical report of 1914 cases of hysterectomy, Amer. Jour. Obst. & Gyn., 42:285-290, Aug. 1941.

11. Weir, W. C.: Statistical report of 1771 cases of hysterectomy, Amer. Jour. Obst. & Gyn., 56:1151-1155, Dec. 1948.

The Use of Antithyroid Drugs

Donald W. Petit, M.D., *Los Angeles*

SUMMARY

The preoperative use of antithyroid drugs is mandatory if surgical treatment of complicated hyperthyroidism is contemplated. Six months to a year may be required for suitable preparation.

The long-term use of antithyroid drugs is less effective for the "cure" of hyperthyroidism than is operation or the use of radioactive iodine.

Propyl and methyl thiouracil are the antithyroid drugs of choice.

Either of these thiouracil derivatives is capable of producing leukopenia.

The antithyroid drugs exert no favorable effect on exophthalmos.

The antithyroid drugs are suitable for the control of hyperthyroidism during pregnancy. The patient probably should not be kept hypothyroid during pregnancy but rather in a state of mild hyperthyroidism.

IT is less than eight years since Astwood published his first clinical impressions of the efficacy of certain drugs for the treatment of hyperthyroidism.[3] Astwood's impressions have since been broadened, as noted in a recent review by him.[2] An antithyroid drug might be considered as any substance capable of interfering with the formation, storage, or secretion of thyroid hormone. Numerous such substances, ranging from the familiar iodide or iodine to thiocyanates, thiourea, thiouracil and its derivatives, amino benzene derivatives and possibly certain adrenal cortical hormones, have been described and tested.

In this country, when the term antithyroid drug is used it connotes to clinicians either thiourea or thiouracil and its derivatives. Four drugs have emerged from the large groups originally studied. They are thiourea, thiouracil, methylthiouracil and propylthiouracil; these four are generally available and hence are the drugs considered for practical use. All of them act by inhibiting the formation of thyroid hormone. Just how this is done is obscure. They do not prevent the trapping of iodide by the thyroid gland, an action specifically blocked by thiocyanates, but in some way prevent the next step in thyroid hormone formation, namely the conversion of iodide to iodine with its subsequent organic binding and transformation to hormone.[2, 27] The drugs seem to have no effect on already formed thyroid hormone either stored or circulating, and until such hormone has been consumed, the metabolic effects of the drugs will not be noted.

The problems of the use of antithyroid drugs have been concerned largely with their effect in hyperthyroidism; other uses such as in the treatment of thyroiditis[12] and the handling of carcinoma of the thyroid gland[25] are outside the scope of this discussion. The concern here will be centered about (1) indications for antithyroid therapy, (2) selection of drug, (3) techniques of use, (4) results of antithyroid therapy as a preoperative measure—and as a measure for the long-term control of hyperthyroidism, and (5) the use of the drug in management of such clinical problems as exophthalmos and in pregnancy.

INDICATIONS FOR ANTITHYROID DRUG THERAPY

The decision implied here involves a choice between antithyroid drugs, radioiodine and operation as an instrument of definitive therapy; there seems to be little argument against the use of the drugs as a preoperative measure. The advantages and disadvantages of the drugs in comparison with other forms of therapy may be described as follows:

Advantages

1. Availability: Permanent storage and easy shipment of antithyroid drugs give them a pronounced advantage over radioiodine. The advantages of a simple oral medication, other factors being equal, over operation need no emphasis.

2. Reversibility of action: No organs are destroyed or excised by these drugs. Their effect should be thought of as inducing an "artificial remission" of hyperthyroidism until such time as the "natural remission" occurs. At this point, the drug may be stopped and its effects will have left no permanent mark on the patient.

3. Control: The antithyroid drugs offer a method of the most delicate variability for controlling hyperthyroidism. By suitable changes in dosage of the drug, a patient may be led through all degrees of thyroid activity from his own original hyperthyroidism to profound myxedema. He may be maintained, at the discretion of the physician, at whatever level of thyroid activity is desired. This may be of importance in the treatment of hyperthyroidism during pregnancy.

Disadvantages of Antithyroid Drugs

1. Duration of treatment: Observation of 12 months or more is frequently difficult; shorter periods of treatment than 12 months seem to reduce

From the Department of Medicine of the University of Southern California School of Medicine; and the Thyroid Clinic, Los Angeles County Hospital.

Presented before the Section on General Practice at the 79th Annual Session of the California Medical Association, April 30-May 3, 1950, San Diego.

the incidence of remissions. Astwood meets this objection by advising the physician, and thus indirectly the patient, to regard hyperthyroidism as a chronic illness which requires chronic treatment.[2]

2. Toxicity: The toxicity of certain thiouracil derivatives is certainly no greater and perhaps less than the morbidity associated with thyroidectomy.[10, 17] On the other hand, radioiodine, unless it proves some day to have been carcinogenic, is less toxic than the antithyroid drugs.

3. Uncertainty of permanent results: There is no way at present to determine what patients will have relapse even after prolonged therapy with antithyroid drugs. In some series such as that of Rose and McConnell[22] or Starr and co-workers,[24] upwards of 50 per cent of the patients have had relapse after cessation of treatment.

If these so-called advantages and disadvantages are kept in mind, in what circumstances would antithyroid drugs be used—assuming equal availability of a competent surgeon and technical ability to use radioiodine? Members* of the Thyroid Clinic, Los Angeles County Hospital, feel that antithyroid drugs should be used:

1. As a preoperative measure in (a) young patients with uncomplicated hyperthyroidism, (b) patients with cosmetic or mechanical defects from a toxic goiter, and (c) patients with hyperthyroidism and possible malignant disease of the thyroid gland.

2. As a temporary control of hyperthyroidism during pregnancy.

3. For the occasional remaining patient who because of psychiatric, situational or other reasons is not suitable for treatment with radioiodine.

If radioactive iodine is not available, then operation should be considered the treatment of choice for hyperthyroidism of all sorts. Antithyroid drug therapy alone should be resorted to only for patients who cannot be rehabilitated satisfactorily during preoperative preparation with the antithyroid drugs or who offer extreme technical problems. If only indifferent surgical skill is available, it is probably best to treat all patients with antithyroid drugs until such time as suitable operation can be arranged.

There is a small group of cases of acute hyperthyroidism that start during periods of generalized metabolic disturbance—in adolescence, pregnancy, lactation, and menopause, for example—and in such cases controlling the hyperthyroidism with drugs for a few months, in the hope of early permanent remission, is justified.

CHOICE OF DRUG

The choice for the physician today lies amongst thiouracil, propylthiouracil, methylthiouracil, and possibly thiourea. The problem is to pick the most potent and least toxic drug. The potency of antithyroid drugs has been assayed on the basis of (1) the ability of the drug to induce hyperplasia of the thyroid gland of rats[4] and (2) the ability of the drug to block iodine uptake by the thyroid gland.[23] Another approach to the determination of potency has been that of McGinty and co-workers,[16] who studied the excretory products of thiouracil and certain of its derivatives. These studies showed a higher degree of conjugation inactivation of propyl and benzyl thiouracil than of thiouracil or methylthiouracil. Results of assays of the kinds mentioned have not agreed either with one another or with clinical results. Table 1 shows the contrasting potencies of some antithyroid drugs as ascertained by various animal tests and by clinical impressions. Propylthiouracil appears to be the most goitrogenic, in rats, of the drugs mentioned but to have a lower ability to inhibit radioiodine uptake. Williams[27] in a study of the ability of certain antithyroid drugs to control hyperthyroidism in man placed the drugs in the following order of decreasing potency: 6 propylthiouracil, 6 methylthiouracil, and thiouracil.

Most opinion seems agreed that thiouracil is less potent than methylthiouracil or propylthiouracil. Thiourea has been studied rather carefully by the Yale group,[20] and they feel it to be the most potent of the various thioantithyroid drugs. Their dosage schedules have been low and apparently effective—as little thiourea as 70 mg. a day producing and maintaining remission. Further studies should be done with this compound. The author's clinical impression of the potency of methyl as against propyl thiouracil may be summed up in the following observations: Forty patients were treated with propylthiouracil, with doses as high (in one case) as 600 mg. daily for periods up to nine months; in seven cases neither clinical control nor satisfactory lowering of the protein-bound iodine[24] was achieved. To date with the treatment of 65 patients with methylthiouracil, there have been no failures to control the disease.

TOXICITY

The toxicity of thiouracil.[18, 26] thiourea,[20] propylthiouracil,[5, 6, 13, 15] and methylthiouracil,[9, 14, 15] to mention but a portion of the studies done, has been a matter of concern to all investigators. The reactions observed have been generally in the following classifications: fever, skin rashes, leukopenia and agranulocytosis, arthralgia and muscle pains with a miscellaneous group of reactions such as parotitis, gastrointestinal upsets, and hepatic disturbances.

TABLE 1.—*Potency of Antithyroid Compounds as Determined in the Laboratory and in Patients. Thiouracil Was Assigned an Arbitrary Value of 1.*

Drug	Goitrogenic Potency in Rat	Inhibition Radioiodine Uptake	Ability to Control Hyperthyroidism
Thiouracil	1[15]	1[2]	1[2]
Thiourea	1[15]	1[2]	Most potent[20] 1[2]
Methylthiouracil	1.15[15]	2[2]	1-3[2]
Propylthiouracil	11[15]	0.75[2]	1-5[7]

*Doctors Paul Starr, Boris Catz, Richard Johnson, Benjamin Simkin, Frederick Scharles, George L. Steeples, and Robert L. Stirrett.

The total incidence of reactions from the various compounds is compared in Table 2. The principal finding here is the lack of agreement between investigators; however, both thiouracil and methylthiouracil appear more toxic than propylthiouracil.

It is difficult to assess the incidence of reactions, because they will increase with the assiduity with which the physician searches for them. Thus in the small group of 40 patients studied by Starr and co-workers, there were six instances of transient leukopenia; in five of the six cases this reaction abated without cessation of therapy. In none of the six cases was the reaction "symptomatic." If the patients had been turned loose with instructions to report only if they detected any signs of toxicity, as advocated by some investigators,[14] then reaction would not have been recorded in any case in Starr's series. All the antithyroid drugs under consideration here have been reported as producing leukopenia and agranulocytosis. The incidence of this is apparently lower in treatment with propyl and methyl thiouracil and thiourea than in thiouracil therapy. The author's experience with propylthiouracil was that cessation of treatment was not required in any of 40 cases. Reactions developed in seven of 66 patients treated with methylthiouracil,* and in three cases cessation of treatment was necessary.

Two patients in whom jaundice developed (Table 3) were studied carefully but no evidence of anything that would specifically incriminate the antithyroid treatment was found. In the case in which abrupt onset of diabetes mellitus occurred ten weeks after methylthiouracil therapy was started, there was suggestion of generalized metabolic disorder of some sort, with incidental hyperthyroidism.

From the experience and reports described here there would not appear to be need to stop antithyroid treatment because of leukopenia unless absolute granulopenia developed concomitantly. Fever and arthralgia are considered as potentially serious reactions by Peters and co-workers[20] and should be watched carefully.

It appears that thiouracil is more toxic and less potent than the other drugs studied; the experience with thiourea has been limited in comparison with propyl and methyl thiouracil. These factors tend to

*Methylthiouracil, "Muracil®," was supplied by Doctor K. W. Thompson of Organon Inc., Orange, New Jersey.

TABLE 2.—*Comparison of Over-all Toxicity of Various Antithyroid Drugs*

	Thiouracil (Per Cent)	Propyl-thiouracil (Per Cent)	Methylthiouracil (Per Cent)	Thiourea (Per Cent)
Incidence of all reactions noted by various investigators	13[26] 8-10[18]	2[6] 2[15]	9.3[9] 13[15] 5[14]	2-6[20]

TABLE 3.—*Data on Seven Cases of Toxic Reaction in Series of 66 Patients Treated with Methylthiouracil*

Age and Sex	Diagnosis	Reaction	Preceding Treatment	Course
F. 41	Primary hyperthyroidism	Fever; arthralgia	Methylthiouracil 400 mg. daily 10-20-48 to 11-3-48; developed fever, drug stopped one week, fever gone; restarted 400 mg. daily in three weeks, then developed arthralgia.	Drug continued on dose levels of 300 mg. daily to 500 mg. daily for 11 months with continuous fluctuating arthralgia. After total 13 months treatment, drug stopped. Relapsed 2 mos.
F. 47	Primary hyperthyroidism	Arthralgia	Methylthiouracil 400 mg. daily 11-6-48 to 11-24-48; 200 mg. daily to 12-12-48. Drug stopped because of severe generalized arthralgia, subcutaneous thickening palm of right hand which began 11-24-48.	Relapsed Jan. 1949, treatment with radioiodine, arthralgia persisted until Sept. 1949. Non-toxic, well Jan. 1950.
F. 80	Primary hyperthyroidism; heart disease	Arthralgia	4 months after beginning methylthiouracil 400 mg. daily, first complained of arthralgia. Stopped methylthiouracil for 1 week and restarted at higher dose.	Arthralgia continued while on methylthiouracil (9 months of varying doses) lessened 2 months after drug stopped.
F. 27	Primary hyperthyroidism	Arthralgia	4 months after starting methylthiouracil, first complained of arthralgia. Reduced dose 3 weeks after first complaints from 400 mg. daily to 300 mg. daily.	Methylthiouracil continued 7 months after complaints of arthralgia with no further complaints of this nature.
F. 33	Primary hyperthyroidism	Jaundice	Methylthiouracil started Nov. 1948. Became pregnant Jan. 1949; miscarried June 1949. Subsequently became jaundiced. Was taking methylthiouracil 50 mg. daily at time of miscarriage.	Jaundice subsided after cessation of methylthiouracil and while taking propylthiouracil.
F. 39	Primary hyperthyroidism	Jaundice	Jaundice started 6 weeks after beginning methylthiouracil — while taking methylthiouracil 300 mg. daily. Methylthiouracil stopped 3 days after jaundice noticed.	Jaundice subsided after cessation of methylthiouracil. Hyperthyroidism treated by surgery (3 weeks after discontinued methylthiouracil).
F. 32	Primary hyperthyroidism	Diabetes mellitus	400 mg. of methylthiouracil daily for 10 weeks; developed abrupt nausea, vomiting, polyuria and thirst, glycosuria and hyperglycemia.	Thyroidectomy.

place the choice of drug between the propyl and methyl thiouracil derivatives. There is no clear-cut advantage discernible at this time for either drug.

TECHNIQUE FOR USE OF ANTITHYROID DRUGS

For reasons previously given, thiouracil will not be considered. (Readers interested in thiourea are referred to Peters.[20])

Preoperative management. The whole purpose of using antithyroid drugs preoperatively is to attain complete control of the hyperthyroid state. If the physician is satisfied with less, he might as well use iodine alone. There no longer exists a reason for carrying out thyroidectomy before full control is achieved. Particular emphasis should be placed on the preoperative preparation of the patient in whom age. general debility, pronounced malnutrition, heart failure, etc., are complicating factors. These patients should be prepared leisurely; it may take six months to a year to bring such a person to the point where operation can be done. Not only should the hyperthyroidism be controlled, but the patient should be kept euthyroid long enough before operation to permit him to recover from the ravages of the disease. It is in such patients that the greatest advantage of these drugs, over iodine solution, as a preoperative measure is to be found.

1. Dosage: Propyl or methyl thiouracil, 400 mg. daily in four divided doses of 100 mg. each. This dose is kept up until the basal metabolic rate has dropped to one-half its pretreatment level, or until the protein-bound iodine is below 7 micrograms per 100 cc. of serum. When this point is reached, a maintenance dose of 200 mg. per day is used. The average patient will be non-toxic in three to four weeks. However, there should be no hesitancy to continue therapy for six months or more to attain complete control.

2. The use of iodine: The involuting effect of iodine on the hyperplastic thyroid acts across a thiouracil block.[21] Thus, while the antithyroid drug prevents the iodination of thyroid colloid, it does not prevent iodine from promoting its usual effect of decreasing vascularity and flattening epithelium.

Most clinics advocate the use of iodine in doses of 10 to 30 drops of Lugol's solution daily during the last three weeks of preparation for operation with antithyroid drugs. If there is any question of escape from control, the antithyroid drug should be continued, with the iodine, to the day of operation.

At some centers[6] small amounts of iodine (8 to 10 mg.) are used from the start of preparation. In most uncomplicated cases of hyperthyroidism preparation may be carried out on an out-patient basis. The time is generally four to eight weeks.

A patient who has been taking iodine for several weeks or months will respond to antithyroid drugs slowly. In the case of the occasional patient who is moderately toxic and who has had months of iodine

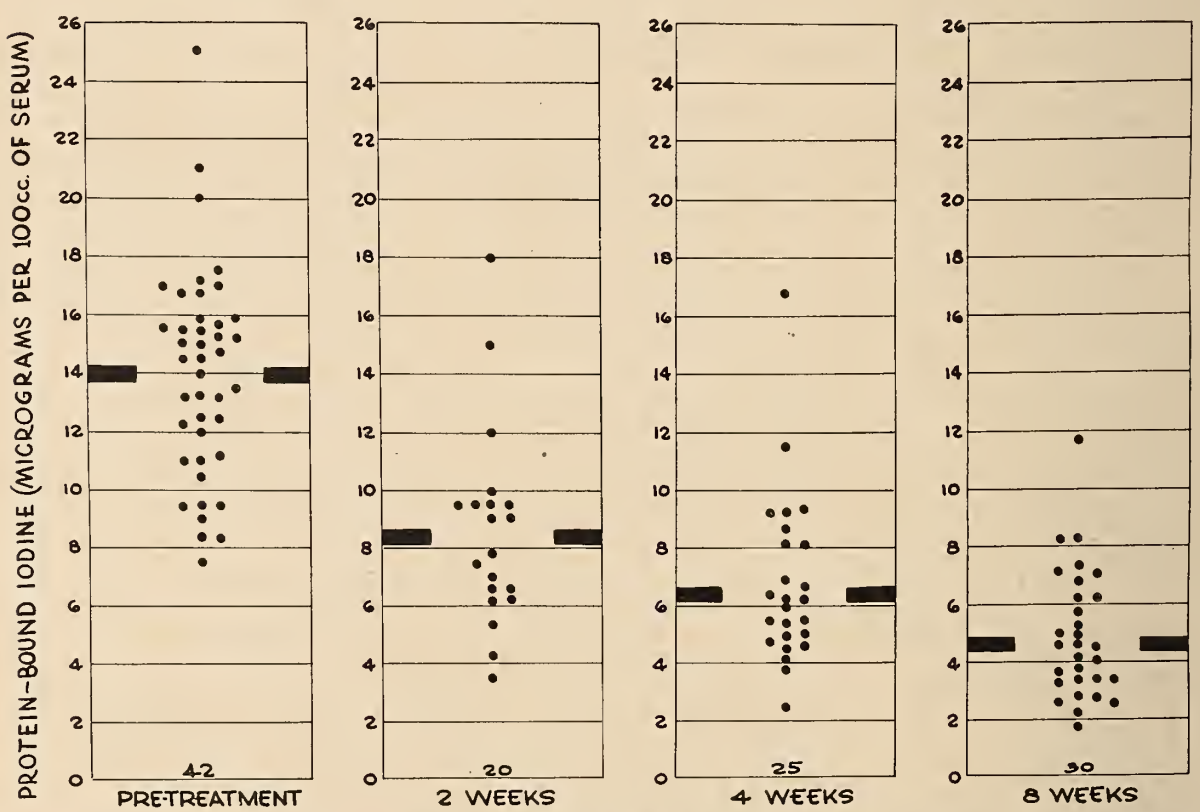


Chart 1.—Changes induced in the protein-bound iodine level of 42 patients with hyperthyroidism by treatment with methylthiouracil (400 mg. daily). Number of patients tested at time intervals as indicated at bottom of each column.

ingestion, the handling may be difficult. Cessation of iodine therapy and institution of antithyroid therapy may well be followed by exacerbation of the toxic state. Such patients must be watched closely, and it will probably be necessary to treat them for several weeks to attain a satisfactory result.

The value of antithyroid drugs as a preoperative measure is shown in a report by Bartels[6]—the operative mortality rate dropped from 1.49 per cent to 0.17 per cent in the years following the use of these drugs.

ANTITHYROID DRUGS FOR THE LONG-TERM CONTROL OF HYPERTHYROIDISM

The aim of treatment in long-term control of hyperthyroidism is the maintenance of a state of mild hypometabolism for a period of at least 12 months with as small an amount of drug as possible.

The initial doses of propyl and methyl thiouracil are the same as those used in preoperative care. As soon as the basal metabolic rate or the protein-bound iodine drops appreciably, the dose of the drug should be cut gradually to a maintenance level of 50 to 100 mg. daily.

The leukocyte count should be checked weekly during the institution of therapy, and monthly thereafter. All patients should be instructed to stop the drug and report if fever, sore throat, skin rash, or any other symptoms of unwellness develop.

Treatment should be continued for at least 12 months. Even this, however, may not be long enough inasmuch as many patients have sudden relapse[22, 24] after long periods of observation. In a not yet completed study of methylthiouracil by the Thyroid Clinic of the Los Angeles County Hospital, ten patients were kept euthyroid or hypothyroid for 12 months or more; of these, five had relapse within two months after cessation of treatment.

The excellent results with long-term antithyroid therapy reported by some investigators[2, 9, 17] have not been duplicated in the author's experience.

The rate of initial response to antithyroid drugs is variable. Bartels[6] stated that one day will be required for each point the basal metabolic rate is elevated. The author has used the protein-bound iodine determination to follow patients. Chart 1 shows the rate at which the iodine level fell in a group of patients treated with 400 mg. of methylthiouracil daily. A significant percentage were still abnormal at the end of eight weeks.

ANTITHYROID DRUGS AND CERTAIN COMPLICATIONS DURING HYPERTHYROIDISM

Exophthalmos. It has been the author's impression that exophthalmos was either worsened or unaffected by treatment of hyperthyroidism with antithyroid drugs. In five patients (Table 4) who had severe eye problems, there were four whose eyes seemed to be unaffected and one whose eyes, to the observers, seemed to worsen under treatment. Measurements of the eyes improved in one patient, a man. McCullagh[14] reported that seven of nine cases of exophthalmos worsened during treatment with methylthiouracil. These results are similar to those observed after thyroidectomy.

Pregnancy. Qualified observers are divided on the merit of antithyroid drugs during pregnancy. Astwood[2] tentatively approved of them while Mussey and co-workers[19] were not sure they should be used. Acton and Cottrell[1] collected reports of 15 cases of pregnancy and hyperthyroidism treated with thiouracil or its derivative and added a report of a case observed by them. Fifteen of the 16 patients delivered normal infants. In one case spontaneous abortion occurred at six months; the thyroid gland in the fetus was described as hyperplastic. Hone and Magarey[11] reported the birth of a cretin to a woman who had received methylthiouracil during seven months of pregnancy. In experiments with animals the transmission of antithyroid drugs to the offspring via the lactating breast[7] and transplacental transmission to the fetus[8] have been demonstrated.

Three patients were treated by the Thyroid Clinic of the Los Angeles County Hospital for hyperthyroidism during pregnancy (Table 5). All three conceived when they were either euthyroid or mildly hypothyroid under antithyroid medication. In two of the patients the protein-bound iodine was allowed to rise during pregnancy to 10 to 13 micrograms per 100 cc. of serum. These two delivered normal babies.

TABLE 4.—*Description of Eye Changes in Five Patients with Exophthalmos Under Treatment with Antithyroid Drugs*

Diagnosis	Hertel Proptometer Reading Before Treatment	Treatment and Changes	Hertel Proptometer Reading During or After Treatment
Recurrent hyperthroidism	OS 23 mm. OD 23 mm.	Methylthiouracil 400 mg. daily and desiccated thyroid 0.25 gm. daily for 2 months. No clinical improvement in this time.	OS 23 mm. OD 24 mm.
Recurrent hyperthyroidism	OS 27 mm. OD 27 mm.	Methylthiouracil 400 mg. daily for 6 weeks.	OS 25 mm. OD 25 mm.
Hyperthyroidism and ophthalmoplegia		Methylthiouracil for 9 months. Clinical impression: no betterment of ocular palsy or exophthalmos during treatment.	
Severe exophthalmos and hyperthyroidism	OS 22 mm. OD 28 mm.	Propylthiouracil 400 mg. daily and desiccated thyroid 0.2 gm. daily for 9 months. Clinically patient's eyes were worse with treatment.	OS 26 mm. OD 28 mm.
Primary hyperthyroidism	OS 25 mm. OD 26 mm.	Methylthiouracil 300 mg. daily for 1 month. No change in measurements during 12-month period. Received desiccated thyroid 0.2 gm. daily during most of that time. Subjectively, felt improved.	OS 26 mm. OD 26.5 mm.

TABLE 5.—*Data on Three Women Treated with Antithyroid Drugs During Pregnancy*

Case	Age	Clinical Data	Course
1.	26	Past history of advanced pulmonary tuberculosis. Hyperthyroidism had been treated with propylthiouracil for 7 months; was on dose of 50 mg. daily when became pregnant.	Third month of pregnancy blood iodine rose from 4.4 micrograms to 10.2 micrograms per 100 cc. Propylthiouracil dose increased to 150 mg. daily; blood iodine maintained between 7 and 8 micrograms per 100 cc. After 9 months of treatment, delivered normal baby. Blood iodine fell to 3.2 micrograms per 100 cc. after delivery.
2.	23	Hyperthyroidism diagnosed Sept. 1947. Treatment with propylthiouracil. Became pregnant Aug. 1948 when was receiving 150 mg. daily of propylthiouracil.	Blood iodine rose from 7.7 micrograms per 100 cc. to as high as 13 micrograms without clinical toxicity, during pregnancy. Normal baby delivered April 30, 1949.
3.	33	Hyperthyroidism diagnosed Nov. 1948. Methylthiouracil 400 mg. daily Nov. 1948 to May 1949, 100 mg. daily to June 8, 1949. Became pregnant Jan. 1949.	Blood iodine maintained between 3 and 4 micrograms per 100 cc. during pregnancy. Spontaneous abortion at 6 months.

The third patient, with history of previous miscarriage, was kept in a state of mild hypothyroidism and spontaneous abortion occurred at six months. Autopsy of the fetus was not carried out.

Antithyroid drugs should be given in low enough dosage to permit the basal metabolic rate or protein-bound iodine to rise during pregnancy. Instead of keeping the protein-bound iodine at levels of 3 to 4 micrograms per 100 cc. of serum, it should be permitted to rise to levels of 8 to 10 micrograms per 100 cc.

REFERENCES

1. Acton, W. C., and Cottrell, J. D.: Pregnancy in thyrotoxicosis under treatment with thiouracil, Canad. M.A.J., 61:27, July 1949.

2. Astwood, E. B.: Treatment of hyperthyroidism with antithyroid compounds, Advances in Internal Medicine, 3:237, 1949, Interscience Publishers.

3. Astwood, E. B.: Treatment of hyperthroidism with thiourea and thiouracil, J.A.M.A., 122:78, May 6, 1943.

4. Astwood, E. B., Bissell, A., and Hughes, A. M.: Further studies on the chemical nature of compounds which inhibit the function of thyroid gland, Endocrinology, 37:456, Dec. 1945.

5. Astwood, E. B., and Vanderlaan, W. P.: Treatment of hyperthyroidism with propyl thiouracil, Ann. Int. Med., 25:813, Nov. 1946.

6. Bartels, E. C.: Propyl thiouracil: its use in the preoperative treatment of severe and complicated hyperthyroidism, West. J. Surg., 56:226, April 1948.

7. Bichenbach, W., Hess, M., and Loeser, A.: Use of methyl thiouracil during pregnancy and lactation, Deutsche. Med. Wchnschr., 73:640, December 17, 1948.

8. Freiesleben, E., and Kjerulf-Jensen, K.: Effect of thiouracil derivatives on fetuses and infants, J. Clin. Endocrinol., 7:47, Jan. 1947.

9. Frisk, A. R.: Continuous methyl thiouracil treatment in hyperthyreosis, Nord. Med., Stockholm, 37:363, February 20, 1948.

10. Himsworth, H. P., Morgans, M. E., and Trotter, W. R.: Thyroidectomy and thiouracil in toxic goitre, Lancet 1:241, Feb. 1947.

11. Hone, G. M., and Magarey, I.: Cretinism associated with methyl thiouracil therapy, M. J. Australia, 2:524, October 30, 1948.

12. King, B. T., and Rosellini, L. J.: Treatment of acute thyroiditis with thiouracil; preliminary report, J.A.M.A., 129:267, Sept. 22, 1945.

13. McCullagh, E. P., Hibbs, R. E., and Schneider, R. W.: Propyl thiouracil in the treatment of hyperthyroidism, Am. J. M. Sc., 214:545, Nov. 1947.

14. McCullagh, E. P., and Sirridge, W. T.: Methyl thiouracil in the treatment of hyperthyroidism, J. Clin. Endocrinol., 8:1051, Dec. 1948.

15. McGavack, T. H.: Status of antithyroid substances in thyroid disease, Am. J. Med., 5:90, July 1948.

16. McGinty, D. A., Sharp, E. A., Dill, W. A., and Rawson, R. W.: Excretion studies on thiouracil and its 6-benzyl, 6-n-propyl and 6-methyl derivatives in man, J. Clin. Endocrinol., 8:1043, Dec. 1948.

17. Meulengracht, E., and Kjerulf-Jensen, K.: Prolonged methyl thiouracil treatment in thyrotoxicosis: Results after cessation of the treatment, J. Clin. Endocrinol., 8:1060, Dec. 1948.

18. Moore, F. D., a cooperative study compiled by: Toxic manifestations of thiouracil therapy, J.A.M.A., 130:315, Feb. 9, 1946.

19. Mussey, R. D., Haines, S. F., and Ward, E.: Hyperthyroidism and pregnancy, Am. J. Obst. and Gynec., 55:609, April 1948.

20. Peters, J. P., Man, E. B., Kydd, D. M., Engstrom, W. W., and Waters, D. L.: Toxic effects of antithyroid drugs, Yale J. Biol. and Med., 22:139, Dec. 1949.

21. Rawson, R. W., and McArthur, J. W.: What has thiouracil taught us about the pathologic physiology of Graves' disease? West. J. Surg., 55:27, Jan. 1947.

22. Rose, E., and McConnell, J.: Thiouracil in thyrotoxicosis: Results of prolonged treatment in 35 cases, Am. J. Med. Sc., 213:74, Jan. 1947.

23. Stanley, M. M., and Astwood, E. B.: Determination of relative activities of antithyroid compounds in man using radioactive iodine, Endocrinology 41:66, July 1947.

24. Starr, P., Petit, D. W., Meister, L., and Stirrett, R. L.: Therapeutic studies in hyperthyroidism: Propyl thiouracil, J. Clin. Endocrinol., 9:330, April 1949.

25. Trunnell, J. B., Marinelli, L. D., Duffy, B. J., Hill, R., Peacock, W., and Rawson, R. W.: Treatment of metastatic thyroid cancer with radioactive iodine—credits and debits, J. Clin. Endocrinol., 9:1138, Nov. 1949.

26. Van Winkle, W., Hardy, S. M., Hazel, G. R., Hines, D. H., Newcomer, H. S., Sharp, E. A., and Sisk, W. N.: The clinical toxicity of thiouracil; survey of 5,745 cases, J.A.M.A., 130:343, Feb. 9, 1946.

27. Williams, R. H.: Antithyroid drugs; comparison of results of newer forms of treatment of thyrotoxicosis, Arch. Int. Med., 80:11, July 1947.

The Nutritional Status of the Aging

Public Health Aspects

H. D. Chope, M.D., Dr. P.H., and Sheldon Dray, M.D., *Redwood City*

SUMMARY

In preliminary analysis of nutritional, physical and laboratory data obtained in a study of 577 persons 50 years of age and over in San Mateo County, a number of factors of possible significance were noted.

Of the 577 persons examined, 243 were referred to private physicians for a total of 377 conditions requiring attention.

Obesity and hypertension were the most common causes for referral. More women than men were overweight. Anemia was noted more often in women than in men. Serious anemia was of higher incidence in the higher age brackets. In a number of cases in which there was high glucose content in the blood there was no trace of sugar in the urine.

Abnormally low content of ascorbic acid in the blood was of high incidence among persons of low income, of lesser incidence in the middle income group, and did not occur in persons in the high income group.

THERE is obvious need for research in the field of human nutrition in our aging population, since this group is ever increasing in the total population. Very little is known of the physiological mechanisms involved in the aging process nor is it clearly understood what is meant by pathological changes in contrast to the so-called inevitable normal involutionary changes. Certainly, it may be hoped that as new scientific facts are gathered people may not only lead a longer, but also a more functionally active and socially useful life.

Available scientific evidence suggests that dietary inadequacies and malnutrition of varying degrees are of frequent occurrence in the United States and that the nutritional status of an appreciable part of the population can be distinctly improved. Animal experimentation indicates that length of life, as well as functional efficiency, can be considerably enhanced by more adequate nutrition. To promote optimum human nutrition and health more scientific knowledge is required regarding the nutritional needs of and the nature of the characteristic changes in the aging.

From the San Mateo County Department of Public Health and Welfare.

Presented before the Section on Public Health at the 79th Annual Session of the California Medical Association, April 30-May 3, 1951, San Diego.

This presentation is a preliminary report on a joint cooperative research project* carried out in San Mateo County during the year 1948-49 by the U. S. Bureau of Human Nutrition and Home Economics, the U.S.P.H.S., the Department of Home Economics of the College of Agriculture of the University of California, the California State Department of Public Health, and the Department of Public Health and Welfare of San Mateo County, with the cooperation of the San Mateo County Medical Society.

Objectives: The Western Agricultural Experiment Stations, the U. S. Bureau of Human Nutrition and Home Economics and the United States Public Health Service have established long-term objectives for a five-year study of human nutrition, of which the present study was only one phase. The immediate local objectives were fivefold:

1. To collect information on etiologic aspects and the prevalence of deficiency and degenerative diseases in the aging in San Mateo County.

2. To determine the relationship between nutritional status and the degenerative diseases of the aging.

3. To test, develop and apply methods of assessing human nutrition and health status in the aging.

4. To develop procedures effective in the correction of nutritional deficiencies and other diseases discovered by the health appraisal.

5. To present to the physicians and the community at large information regarding nutrition in the aging.

With the nearly total lack of knowledge regarding nutrition in the aging and such broad objectives, it is obvious that the techniques used were necessarily of the shotgun variety—that is, instead of a study of any one nutritional factor exhaustively, a very broad approach was made to the problem in hopes that later statistical analyses would reveal certain clues or correlations worthy of more detailed study.

The procedure was as follows:

1. Recruitment and selection of persons for study.

2. Examination, including detailed nutritional and medical history, physical examination, and laboratory studies.

*Although each of the agencies made contributions to the project in either kind of service, the principal source of support came from an annual $40,000 grant made by Congress to the eleven Agricultural Experiment Stations of Western States for research in human nutrition. As this was a research project and not an administrative or case-finding study, no attempt has been made to determine the actual case costs; but for known cash outlays it averaged about $110 per case completed.

3. Referral to private physicians of persons with detected abnormalities.

4. Tabulation and analysis of data.

Recruitment and Selection. As all persons studied were volunteers, a publicity campaign was conducted to reach the population in the age groups under study, with the close cooperation of the press, radio, voluntary health agencies, churches, labor organizations, lodges, luncheon clubs and other social organizations. All persons selected for study were 50 years of age or over, were residents of San Mateo County, were physically and mentally capable of participating, were not on any special diet, and had not been under the care of a private physician within the previous three months.

Eight hundred and forty-three persons registered; studies were completed on 577 persons selected from the registrants. Although the sample was random in order to facilitate statistical analyses, efforts were made to obtain:

1. An equal number of males and females (final count 280 males and 297 females).

2. As nearly as possible an equal number of participants from each age group. This was impossible, the final distribution being as follows:

Age Group (years)	Number	Percentage of Total
50-59	192	33.2
60-69	215	37.3
70-79	137	23.8
80-89	33	5.7

3. A sample from all economic groups. The distribution was as follows: County institution, 47; low economic, 59; middle economic, 445; upper economic, 24; unknown, 2.

4. A reasonable geographic distribution. In addition to the participants examined at the Crystal Springs Home, the unit was stationed during different periods of the study in the far north of the county (Daly City), in the central part of the county (Burlingame), and in the southern part of the county (Redwood City). The distribution of participants by area was as follows: Crystal Springs Home, 48; Daly City, 72; Burlingame, 311; Redwood City, 146.

Examinations.

1. Nutritional history was divided in two parts:
   Part A was a seven-day record kept by the participant of everything he ate after a detailed conference with the nutritionist.
   Part B was a general food history elicited by the nutritionist covering the participant's general food habits over the years.
2. Medical history was also done in two parts:
   Part A was a general medical history of the patient's previous diseases and medical care.
   Part B was a detailed history relative to physiologic systems.
3. The physical examination consisted of the procedures followed in the usual careful clinical examination plus an assessment of nutritional status by physical signs, as outlined in the Manual for Nutritional Appraisal of the United States Public Health Service.
4. The laboratory procedures consisted of the following determinations:
   (a) Blood—Hemoglobin, serum protein, sedimentation rate, packed red cell volume, glucose, ascorbic acid, Vitamin A, carotene, nonprotein nitrogen, cholesterol (free), cholesterol total, leukocyte count with cell differential, erythrocyte count, and tests for presence of organisms.
   (b) Urine—glucose, albumin.
   (c) Chest x-ray.
   (d) Bone density determination (Method of Dr. P. B. Mack).
   (e) Vaginal Papanicolaou smears for women.

Referral to private physicians. As soon as possible after completion of the examinations, a summary was prepared for each patient and a letter sent informing him or her that (1) no conditions were discovered requiring medical care at the time, or (2) that he or she was in need of medical care. If the participant indicated the name of a physician in private practice, a complete summary was sent to the physician, and, if abnormal conditions had been found, the information that the patient was being referred. If no physician was indicated by the participant, he was asked to designate a physician, and a complete summary was sent to the physician indicated. Of the 577 persons examined, 243 (42.1 per cent) were referred to private physicians. Some of those referred had more than one of the conditions requiring the attention of a physician; there were 377 such conditions in the 243 persons referred.

Condition	Number of Instances	Percentage of 377 Instances
Hypertension	120	31.8
Obesity	101	26.8
Serologic evidence of disease	7	1.8
Cardiac abnormality	17	4.5
Anemia	14	3.7
Hyperglycemia	14	3.7
Albuminuria	29	7.7
Glycosuria	17	4.5
Cervical polyps	5	1.3
Cervical erosion	6	1.6
Other	47	12.5

In the 297 women examined, no case of malignant disease was detected by the Papanicolaou test. No case of tuberculosis was detected in the 577 chest x-rays.

As hypertension and obesity were by far the most common causes for referral, a simple association table was compiled (Table 1).

Of the males, 13.6 per cent were overweight, while 16 per cent of the females were overweight —not a significant difference, but suggestive. Of persons under 65 years of age, 17.5 per cent were overweight while 12.1 per cent of those over 65 were overweight. This might suggest that perhaps those in the older age brackets who are overweight do not live into the 65 plus age group.

TABLE 1.—*Incidence of Overweight and of Abnormally High Systolic Blood Pressure*

	O.W.†	—O.W.‡	Total
Sex:			
Male	37(13.6%)	234	271
Female	47(16%)	246	293
Total	84(14.9%)	480	564*
Age:			
65—	51(17.5%)	240	291
65+	33(12.1%)	240	273
Total	84(14.9%)	480	564*
Systolic blood pressure (mm. of mercury):			
200+	20(26.3%)	56	76
200—	64(13.1%)	424	488
Total	84(15.9%)	480	564*

†O.W. = Overweight—16 per cent or more above calculated average weight for age and sex.
‡— O.W. = Not overweight.
*Data not complete on 13 participants.

Obesity and hypertension were definitely associated, as would be expected. Of the overweight participants, 23.8 per cent had a systolic blood pressure of 200 mm. of mercury or more, while only 11.6 per cent of those who were not overweight had systolic pressure of that order.

There was little difference between the males and females as to hemoglobin content of the blood, but the incidence of anemia was slightly higher in females than in males. With anemia considered to exist if the hemoglobin content was 11 gm. or less per 100 cc., 2 per cent of the females and 1.4 per cent of males were anemic. Serious anemia was more common in the older age groups.

Age Group	% of Participants with Less Than 11.0 gm. Hemoglobin per 100 cc.
50-59	1.04
60-69	.93
70-79	3.15
80-89	4.16

The relationships between high content of sugar in the blood and sugar in the urine were of interest. In this regard, any specimen of urine with a trace of glucose or more was considered "positive"; blood containing 160 mg. per 100 cc. within two hours after a meal or as much as 130 mg. more than two hours after a meal was considered "positive." Forty-four persons had urine positive for sugar, and 35 had "positive" blood. Only 31.8 per cent of those with "positive" urine had "positive" blood, while 3.9 per cent of persons with urine negative had blood positive for sugar. This would indicate that in general surveys for diabetes, determination of the sugar content of the urine is not completely reliable. Of the 35 persons with blood positive for glucose, 21 (60 per cent) had not even a trace of sugar in the urine.

The final phase of this study—tabulation and analysis of the data—is not yet completed. When it is, answers to some of the following questions may be found:

1. Are the accepted "normal ranges" for the various blood constituents valid in the older age groups?

2. What is the relationship between food cholesterol or fat intake and the blood cholesterol level?

3. Is the bone density in old age correlated with calcium/phosphorus intake, sun exposure, Vitamin D intake, protein intake or any other measured factor?

4. Is there a correlation between the intake of protein or other nutrients and blood levels of non-protein nitrogen, uric acid or creatinine.

5. Are any specific dietary elements correlated or associated with kidney disease, hypertension, cardiac disease, other degenerative diseases?

6. What dietary factors are correlated with high or low hemoglobin levels in elderly persons?

7. Do high Vitamin A intake or high ascorbic acid plasma levels favorably affect the health?

In relation to Question 7, some data are now available. The results of the blood analyses for ascorbic acid were analyzed in relation to the economic status of the persons studied (Table 2). Assuming ascorbic acid content below 0.5 mg. per 100 cc. to be abnormal, it was found that 87 per cent of the institutional patients fell in this range, 41.7 per cent of the low economic group in the general population, 20 per cent in the middle economic group and none in the high economic group. There is an apparent correlation between economic status and ascorbic acid blood levels. At the Crystal Springs Home either the food provided for the kitchen does not contain sufficient Vitamin C or else the food is so cooked that part or all of the Vitamin C is destroyed. It might be assumed that those who can afford a good diet naturally include adequate Vitamin C in their diet.

TABLE 2.—*Ascorbic Acid Content in Blood of Aged Persons of Various Economic Groups*

Blood ascorbic acid mg. per 100 cc.:	Total	Pension and Relief			General Population		
		C.S.H.*	Low	Middle	Low	Middle	High
0.0 to 0.4	166(28.8%)	41(87.2%)	12(52.1%)	14(31.8%)	15(41.7%)	82(20.4%)	0
0.5 to 0.8	128(22.2%)	3(6.4%)	4(17.3%)	10(22.7%)	15(41.7%)	93(23.2%)	3(12.5%)
0.9 and over	274(47.5%)	1(2.1%)	7(30.4%)	19(43.2%)	6(16.6%)	221(55.1%)	20(83.3%)
Unknown	9(1.5%)	2(4.3%)	0	1(2.3%)	0	5(1.3%)	1(4.2%)
Total	577	47	23	44	36	401	24

*Crystal Springs Home.

The Refrigeration Treatment of Chronic Osteomyelitis

ROBERT BINGHAM, M.D., *Riverside*

SUMMARY

Systemic penicillin therapy plus refrigeration at the site of the lesion, with operation if necessary, was used in the treatment of chronic osteomyelitis.

Nine patients with disease of long standing were treated. For three, bed rest, chemotherapy and refrigeration were sufficient. Surgical treatment in addition was carried out in six cases. Operations consisted of unroofing the abscess cavity, multiple drilling for sieve-like perforation of the abscessed bone, and primary suture of the incision. Solutions of penicillin, 500 to 1,000 units per cubic centimeter, were used for local irrigation at the time of closure.

In all cases the lesions healed and there was no recurrence within a period of two years. The period of hospitalization did not exceed 14 days in any case.

Refrigeration of the infected area before and after operation reduced pain, swelling, infection and toxemia.

TEN years ago, with the widespread use of the sulfonamide drugs, the mortality rate of acute osteomyelitis fell sharply to approximately 4 per cent, and the morbidity of chronic osteomyelitis as a complication of other injuries became correspondingly low. Since then, with the use of penicillin, the mortality rate of acute and chronic osteomyelitis has approached zero. Yet the occasional case of chronic or recurrent osteomyelitis of many years' standing is still a difficult surgical problem. Occasionally a new case of acute osteomyelitis will become chronic and necessitate surgical treatment despite the best of medical management.

Patients with acute osteomyelitis can be divided into two groups. First, those with primary acute osteomyelitis of metastatic hematogenous type in which an acute lesion appears, usually in a long bone. Most such patients are children. Occasionally there is a history of trauma or of mild infection elsewhere in the body—an upper respiratory infection, pimple or boil, or a small open wound. Since the advent of penicillin therapy, the management of cases of this type has become fairly well standardized—complete bed rest, immobilization of the soft tissue and joints of the affected limb, administration of penicillin to a high blood level, and occasionally in addition a sulfonamide drug by mouth. The lesion usually disappears in three to ten days. The addition of local refrigeration therapy to the site of infection has been reported to materially reduce the pain, local swelling, duration of symptoms, and length of hospitalization.[2] In a small number of cases a localized abscess will form, occasionally containing infected fluid, although frequently the fluid is sterile owing to chemotherapy; and in such cases surgical incision and drainage or aspiration will be necessary. The injection of a local solution of penicillin into the abscess or infected joint cavity will materially reduce the extent of the local infection.

The second group of patients are those with acute osteomyelitis following infection of a compound fracture or an operation on a bone or joint. Such cases are rarer than in previous years but they will still occur as long as people have compound fractures and as long as surgical operations are done on bones and joints. The local use of penicillin solution, 500 to 1,000 units per cc., in the irrigation of compound fracture wounds during debridement, or in orthopedic surgical wounds before closure, will greatly reduce the incidence of bone infection.

In a series of 276 cases, including both compound fractures and operations on the bones and joints, acute infection occurred in only one case in which local irrigation of penicillin solution was used. In that case, suppuration developed approximately six weeks after operation for spinal fusion. After removal of a single bone chip, which had become infected and formed a sequestrum, prompt healing occurred. In cases of this type, local refrigeration of the affected part will materially reduce the pain, swelling, and the incidence of wound and bone infections.

Schaubel[9] reported the use of refrigeration after orthopedic operations in 345 cases. He stated that the amount of narcotic necessary to relieve pain was greatly reduced, and that there was less pain and discomfort, less swelling, less occasion for postoperative casts and dressings to be loosened, and fewer postoperative complications. Gilbert, Call, and Roose[3] used refrigeration and penicillin not only for wounds of the extremities but also in cases of epidermophytosis and varicose ulcers with extremely good therapeutic effect.

CHRONIC OSTEOMYELITIS

The cases of chronic osteomyelitis reported upon in this presentation were of two classes:

1. Those in which the bone remained infected over a period of many years, with periodic acute flare-ups with pain, swelling, and occasional drainage or extrusion of a sequestrum.

2. More recent cases of chronic osteomyelitis, usually following infection of a wound or operative site.

The term "osteomyelitis" as here used conforms with the American usage of the word, by which is meant any infection of the bone and adjacent tissues. It would be more correct to use the term

Presented before the Section on Industrial Medicine and Surgery at the 79th Annual Session of the California Medical Association, April 30-May 3, 1950, San Diego.

"ostitis" as meaning acute or chronic infection of bone tissue. This is the general term which includes both the conditions known as "osteomyelitis," which means inflammation of the bone marrow, and "periostitis," which means the inflammation of the periosteum and infection of the external surface of the bone.

The new techniques for the management of cases of chronic osteomyelitis described here do not in any way supplant the previous principles. Rather, they supplement the principles of good operative treatment of disease of the bones. The techniques for successful management of a case of chronic osteomyelitis can be divided into five phases, several of which are carried on simultaneously:

1. *Rest and immobilization.* The famous English orthopedist, Hugh Owen Thomas, was the first to insist on absolute rest and immobilization in treatment of infection of bones and joints. He used bed rest and secured immobilization by carefully made braces, splints, and bandages. A student of his, John Ridlon of Chicago, was in turn the teacher of Orr, who introduced the plaster cast and infrequent dressing method of treating chronic osteomyelitis.[8] Orr's method was further elaborated and applied in the Spanish civil war by Trueta.[10] In Orr's and Trueta's experience, open drainage of the wound, packing with petrolatum gauze loosely, and immobilization with plaster of paris splints and casts prevented the inspread of infection and toxemia and reduced the amount of edema and swelling and the general toxic reaction of the patient. Although the author feels that plaster casts are not necessary, absolute bed rest, elevation of the infected extremity and immobilization of the joints by splints during the active stage of infection are recommended.

2. *Chemotherapy.* The Carrel-Dakin method of irrigation of osteomyelitis lesions by dilute chlorine solution, the maggot treatment, and the sulfonamide treatment have been discarded in favor of penicillin therapy. Penicillin should be given in adequate dosage and for several days after disappearance of the last clinical evidence of infection. Now that the more slowly absorbing suspensions and emulsions of penicillin are available, 300,000 or 400,000 units, given twice a day intramuscularly, is considered adequate. The penicillin is usually continued for five to twenty days from the beginning of treatment. For children under 12 years of age the dose is decreased in proportion. If the organism can be isolated by culture of the blood or material from local drainage or abscess, it should be tested to determine if it is penicillin-sensitive.

3. *Refrigeration.* Allen and Crossman[1] (cited by Matthews and Hutter[7]) first introduced refrigeration in surgical treatment ten years ago. The use of refrigeration to produce anesthesia and to reduce the amount of septicemia and infection and gangrene of the extremities is well known. In the South Pacific during the recent war it was found to be useful in controlling infections in battle wounds and infections of the extremities which were slow or resistant to healing in the high temperatures of the tropics. In many cases of badly damaged and infected limbs, some with considerable circulatory impairment, this method was used. The local infection was reduced, the systemic reactions to the infections decreased, and the circulation restored in the limbs in many cases in which otherwise amputation would have been necessary.

Technique. A small lesion can be covered with one or two ice caps placed over a moist towel next to the skin. A very acute and large lesion can be covered with one or two layers of moist toweling, with crushed ice applied directly over the towel. This is kept constantly in place for from five to fourteen days, or until evidence of local infection and inflammation has subsided.

The rationale for the use of refrigeration in chronic osteomyelitis is as follows: Bacteria multiply rapidly at body temperatures or higher, but at greatly reduced rates at low temperatures. The human extremities can tolerate 57° F. applied to the toes and fingers, 36° to 38° F. applied to the calf and upper extremities, and 32° F. applied to the thigh. Thus the body tissues can be cooled to temperatures at which bacteria multiply slowly but the tissues are not injured. The general temperature of the body is also lowered to a slight degree by local refrigeration, a beneficial factor in cases in which the patient has fever from the systemic effect of the local osteomyelitis. At the site of infection, cooling of the tissues seems to reduce the multiplication of the bacteria and increase the effect of penicillin. The circulation of the blood brings a constantly replenished supply of leukocytes and a fresh supply of penicillin to combat the infection. As a result the osteomyelitic lesion becomes more localized and smaller each day, and the virulence and toxicity of the infection is greatly lessened.

Refrigeration is begun as soon as the diagnosis of osteomyelitis can be made. The ice is again applied above the surgical dressings after operation and refrigeration is continued for three to five days, or until the patient's temperature is normal and the wound appears to be healing well. The ice is removed once or twice during the day for an hour for observation of the character of the circulation in the limb and the extent of the infection. The temperature of the skin at the site of infection always is much higher than that of the skin in the surrounding area. If the skin over the lesion does not become warmer than that of the opposite normal limb when the pack has been removed for an hour, refrigeration is discontinued.

4. *Surgical drainage of the abscess and removal of sequestrum.* In many cases, rest and immobilization, chemotherapy, and refrigeration may cause the infection to subside or to disappear completely. In other cases an abscess will form and become localized and fluctuant under the skin. In that event, all that is necessary is a short incision or a needle aspiration to remove the accumulated fluid. Very often cultures of this fluid will be sterile and patho-

logical examination will show only tissue necrosis and phagocytosis. In a few cases a definite sequestrum will form. This can be removed at the time the abscess is drained, and healing then usually is rapid and spontaneous.

5. *Surgical obliteration of the abscess cavity and primary closure.* In some cases of osteomyelitis there will be an intramedullary bone abscess which cannot spontaneously drain to the surface of the limb. In such cases penicillin may seem ineffectual because the blood stream in which it is carried does not reach the walled-off abscess. Often in these circumstances the patient has great pain owing to the amount of local swelling of the abscess under the periosteum. The infection may be observed to spread to the cortex of the bone and up and down the marrow cavity for its entire length. In children an abscess may form in the metaphysis and invade the adjacent joint.

In such cases operation is necessary to drain the abscess cavity and break down the wall between normal tissue and the center of the abscess. This is done after a 24- to 48-hour preliminary period of chemotherapy and refrigeration. The patient is prepared and draped in the usual manner in the operating room and an incision is made down to the bone. The periosteum is elevated and drill holes are made through the cortex toward the abscess until the central cavity, identified by pus exuding from the hole when the drill is removed, is located. The roof of the abscess is then removed completely with a rongeur or gouge and mallet. The interior of the abscess is thoroughly curetted and irrigated with copious quantities of penicillin solution containing 500 or 1,000 units per cc. The wall of the abscess cavity is usually sclerotic and densely calcified. With an electric bone drill, multiple holes are made in the base, both sides, and the top and the bottom of the abscess cavity until it resembles a sieve. In this way channels are opened up both for drainage and for invasion of granulation tissue and capillaries from the adjacent normal tissue into the center of the former abscess cavity. The wound is again irrigated with penicillin solution and the soft tissue brought together; as much of the abscess cavity as possible is obliterated by turning in muscle and soft tissue during the closure. Fine chromic catgut interrupted sutures are used for closing the wound in layers without tension. The skin is closed with a continuous cotton or dermal lockstitch and a padded pressure dressing is applied.

The patient is returned to the ward and ice bags are placed over the dressings on the limb and above the operative site. Refrigeration is continued for approximately five days and penicillin for seven to ten days. At the end of this time the wound is usually well healed and the temperature is normal. The sutures then can be removed and the patient can be permitted to walk with crutches without full weight bearing. Roentgenograms are made at monthly intervals, and weight bearing is permitted when the bone appears sufficiently healed and strong.

In the past four years in the Riverside Community and Riverside County hospitals, nine cases of chronic osteomyelitis have been treated by this method. The youngest patient was four years of age, the oldest 90. Four were women and five were boys and men. The duration of the infection before treatment varied from two to eighteen years; the average was four years. Three patients had infection of the femur, and the others had, respectively, infection of the humerus, ulna, tibia, metatarsal, phalangeal toe and ankle bone. On admission to the hospital they had temperatures varying from 101° to 106° F.; the average was about 103° F. In those cases in which operation was done, it was carried out on the second to fifth day after admission, and penicillin and refrigeration were used both preoperatively and postoperatively. In three cases operation was not necessary; the lesions healed with rest, chemotherapy, and refrigeration. In one case healing followed incision and drainage of the abscess. Open surgical procedures, with unroofing of the abscess cavity, were carried out in five cases. In one case a sequestrum was removed. Multiple drilling of the bone with "sieve" technique was done in three cases. Primary closure was done in all cases, and in all there was healing without recurrence of symptoms.[4] None of the patients died. The average hospitalization was 14 days. One patient was given sulfadiazine as well as penicillin, as recommended by Matthews and Hutter.[7] The others received penicillin only, averaging 300,000 to 400,000 units a day for ten days. The average total amount of penicillin given was 3,600,000 units. Refrigeration was used in all cases. The length of time it was continued ranged from four days to 11 days; the average was seven days. All the patients were followed for at least two years and none had recurrence within that time.

3205 Main Street.

REFERENCES

1. Allen, F. M., Crossman, L. W., Ruggiero, W. F., Hurley, V.: Reduced temperatures in surgery, Arch. Surg., 44:139-156, Jan. 1942.

2. Bingham, Robert: Refrigeration Therapy for Acute Osteomyelitis. To be published.

3. Gilbert, R. A., Call, R. A., Roose, D. J.: The clinical results of combined pencillin and ice therapy, Bull. Johns Hopkins Hospital, 84:245, March 1949.

4. Graham, F. M., Coventry, M. B., Ghormley, R. K.: Use of penicillin plus radical excision in chronic osteomyelitis, Proc. Staff Meet. Mayo Clinic, 22:589-597, Dec. 24, 1947.

5. Kenny, Wm. E.: Acute haematogenous osteomyelitis, Surgery, 16:477-484, Oct. 1944.

6. Lund, P. C.: The physiology of refrigeration anesthesia, Manitoba M. A. Rev., 27:141, March 1947.

7. Matthews, S. S., Hutter, C. G.: The treatment of acute haematogenous osteomyelitis with penicillin and sulfonamides combined, California Med., 67:84-87, Aug. 1947.

8. Orr, H. Winnett: Treatment of Osteomyelitis. Lecture to the Los Angeles Orthopaedic Club, Sept. 29, 1947.

9. Schaubel, H. J.: The local use of ice after orthopedic procedures, Am. J. Surg., 72:711-714, 1946.

10. Trueta, J., Agerholm, M.: Acute haematogenous osteomyelitis treated with pencillin, Lancet, 190:877-881, June 15, 1946.

A Review of the Literature on the Etiology of Hodgkin's Disease

Warren L. Bostick, M.D., *San Francisco*

SUMMARY

Extensive research to trace the cause of Hodgkin's disease to a bacterial or protozoan agent has proven fruitless.

Although a viral cause for Hodgkin's disease has been previously suggested, early explorations along that line have not been confirmed. With the development of newer techniques for the study of viral characteristics certain apparently significant factors in Hodgkin's disease have been encountered. Most promising has been the consistent demonstration that Seitz-filtered, sterile Hodgkin's disease lymph node extract can be passed serially in fertile chicken eggs and that the amniotic fluid from these eggs possesses the capacity to interfere with the growth of influenza virus in eggs.

IT is possible to review the literature on the cause of Hodgkin's disease even though no cause has ever been generally accepted as being valid. This paradox exists because many so-called "causes" of Hodgkin's disease have been announced or strongly implied in the literature. Each of these has been followed by a rash of clinical trials of different substances supposed to neutralize or control the so-called etiological agent, and finally further experimental and therapeutic studies (Tables 1 and 2) have given general discredit to the whole announcement.

This cycle of events has occurred so repeatedly in the case of Hodgkin's disease that a review of this phenomenon is interesting. In addition there is possibility that a small thread of truth and reason may be tangled in the maze of generally unacceptable etiologic announcements.

In general the clinical impression in Hodgkin's disease is one of a toxic or septic process coincident with recurrently enlarging lymph node tumor masses. That this frequent association of the disease with fever and toxicity has had its effect on etiologic thinking is seen in the fact that, when a specific cause has been postulated, it has almost invariably been on the basis of a supposed microbiologic organism. Hodgkin himself confused the disease with tuberculosis, and Sternberg[24] for a long time felt that it was a peculiar form of tuberculosis. Later he agreed with Reed[20] that it was a separate entity from tuberculosis, although often associated with it, and probably itself essentially inflammatory in origin.

The possibility that Hodgkin's disease was related to tuberculosis remained in the minds of many workers, since it is known that in from 10 to 20 per cent of cases there is evidence of either inactive or active tuberculosis at autopsy. Furthermore, the negative tuberculin reaction in patients with Hodgkin's disease was so frequent as compared to negative reaction in many other diseases (Steiner[23]) that students could not avoid thinking of Hodgkin's disease as being perhaps an anergic phase of tuberculosis. Fraenkel and Much[9] and Ewing[6] were impressed with this apparent relationship and reported finding acid-fast rods and granules on occasion in tissue from patients who had Hodgkin's disease. In general, however, animal inoculations with such material did not produce the disease. L'Esperance[15] reawakened the tuberculosis theories when she postulated that the bacillus involved was of the avian strain. Although she reported producing tuberculosis in chickens by intravenous injection of ground lymph nodes from subjects with Hodgkin's disease, this was not a constant finding. Subsequent experimenters (Van Rooyen[27]) were unable to confirm these findings, and in general the entire concept was abandoned.

The general significance of the diphtheroid bacilli in Hodgkin's disease was first postulated (erroneously) by Bunting and Yates.[4] They cultured Hodgkin's disease lymph nodes in a search for an etiologic agent and isolated a diphtheroid bacillus on several occasions. They injected this organism subcutaneously into monkeys and regional lymph node disease resulted. Although the animals were toxic and the nodes frequently necrotic, the investigators nonetheless concluded that the bacillus caused a reaction "unquestionably related to human Hodgkin's disease." Subsequently many other investigators, including Fox,[8] demonstrated that such diphtheroids could be isolated from many types of human lymph node tissues. It was soon recognized that the reaction produced in monkeys was simply inflammatory lymphadenopathy.

Parsons and Poston[19] called attention to the simultaneous existence of Hodgkin's disease and brucella infections in their material. They isolated brucella from the lymph nodes in 14 consecutive cases of Hodgkin's disease (Wise and Poston[28]) and stated that the pathologic change in the glandular type of

From the University of California School of Medicine, Department of Pathology.

Presented before the Section on Pathology and Bacteriology at the 79th Annual Session of the California Medical Association, April 30-May 3, 1950, San Diego.

TABLE 1.—*Supposed "Etiologic Organisms" in Hodgkin's Disease*

Organism	Investigators and Date	Basis of Postulation	Evidence Against
Human tubercle bacillus	Sternberg (1898)	Similar in appearance, occasional association.	Animal inoculations negative.
Avian tubercle bacillus	L'Esperance (1931)	Tubercle bacillus in some chickens after intravenous injection of ground Hodgkin's disease nodes.	Van Rooyen (1933) inoculated chickens, with negative results.
Diphtheroids	Bunting & Yates (1914)	Isolated from Hodgkin's disease, lymph nodes; injected in monkeys, caused Hodgkin's disease.	Often found in any lymph nodes (Stewart, 1932). Did not cause Hodgkin's disease in monkeys (Fox 1915).
Ameba	Kofoid	Found ameba in lymph nodes in Hodgkin's disease.	Never confirmed. He mistook macrophages for ameba.
Brucella	Parsons & Poston (1939)	Frequently finding Brucella in lymph nodes in Hodgkin's disease.	Findings not confirmed in other part of U.S.A. (Hoster, Doan et al. 1944). It is an endemic disease in South.
Virus	Gordon (1932) Grand (1942) Bostick (1947) Bostick (1949)	Inclusion bodies. Inclusion bodies. Lethal factor for eggs. Virus interference phenomenon.	Never started Koch's postulates. No epidemiological evidence. Human inoculation unsuccesful.
Torula histoplasmosis, bacilli and cocci. Monilia, gas bacilli, yeasts	Various authors	Sometimes associated with Hodgkin's disease.	Not proposed as "cause"—only as a "trigger mechanism."

brucellosis could not be distinguished microscopically from those caused by Hodgkin's disease. Even with brucella infections patients with Hodgkin's disease often showed no or minimal reaction to the organisms as judged by immunological techniques. Experiments by the other investigators designed to confirm these findings were essentially unsuccessful. Hoster, Doan and Schumacher[12] cultured tissue from 45 cases of Hodgkin's disease and were unable to demonstrate brucella organisms. Further investigation revealed that brucellosis is an endemic infection in the southern area, where Parsons and Poston worked.

Several investigators have been impressed by the diversity of the types of microorganisms which have been found in lymph nodes affected by Hodgkin's disease. Billings and Rosenow[1] concluded that in the early phases of the disease bacilli predominate in the nodes, whereas in the later stages the cocci gain ascendency. Twort[26] found many types of bacteria in cultures of lymph node tissue from subjects with Hodgkin's disease. Jackson and Parker[14] even found in many affected nodes a Gram-positive anaerobic gas bacillus, but the organism was also observed in some control lymph nodes. Yeasts have been isolated from about 55 per cent of lymph nodes, both in controls and those affected by Hodgkin's disease. Torulosis has been associated with Hodgkin's disease (Fitchett and Weidman[7]). Miller, Keddie, Johnstone and Bostick[18] noted the pronounced histologic similarity and coincidence of Hodgkin's disease and histoplasma capsulatum infections.

This multiplicity of organisms that have been encountered in Hodgkin's disease has induced several investigators to suggest, as did Desjardins,[5] that "the factor immediately responsible for lymphoblastomatous hyperplasia of the lymphoid structures is chronic infection of any kind." Fitchett and Weidman[7] considered this to be a possibility. It is known that occasionally Hodgkin's disease develops in a patient after many years of lymphadenopathy. Often in such cases there is history of recurrent transient swelling of lymph nodes, apparently bacterial in origin, and hypertrophied tonsils. Whether or not such a "trigger" action of chronic nonspecific bacterial lymphadenitis exists in certain predisposed patients is not known, although it is neither impossible nor unreasonable.

Bacterial and animal inoculation studies (Table 2) of the Hodgkin's disease process did little to clarify the problem and search for a viral agent developed. Gordon[10] and his associates made the first systematic investigation in this regard, although earlier investigators (Twort[26] and McJunkin[16]) and many later ones concluded that viral infection would offer a logical explanation of the whole process. These conclusions were based upon theoretical considerations reached in the light of known clinical, pathological and experimental characteristics of Hodgkin's disease, which at times possess a resemblance to characteristics of certain known viral tumors of animals.

Gordon's investigation of Hodgkin's disease consisted of a broad study of the effect of the inoculation of various animals—including monkeys, mice, guinea pigs and rabbits—with ground tissue from subjects with Hodgkin's disease. Results of all the procedures were essentially negative except for the observation that, in rabbits, intracerebral inoculations resulted in the development of an encephalitis and convulsive syndrome which developed in from two to six days after incubation. This reaction occurred in from 60 to 75 per cent of cases in which

TABLE 2.—*Hodgkin's Disease Treatment with Biological Preparations*

Authors	Material	Results
Billings & Rosenow (1913)	Diphtheroid vaccine.	Unsuccessful.
Moore (1916)	Diphtheroid vaccine made in horses.	Not successful.
Coley (1928)	Prodigiosus and streptococcus toxins.	Poor.
Utz & Keatings (1932)	Chickens immunized with Hodgkin's disease serum.	Authors: "Encouraging." Others: "Negative."
Gordon (1932)	"Sensitized vaccine" against "virus inclusion bodies." Rabbits used.	Unsatisfactory.
Parsons & Poston (1939)	Brucella vaccine to build up titre in patient.	Not successful.

TABLE 3.—*Animals Inoculated with Lymph Node Mash Derived from Subjects with Hodgkin's Disease*

Animal	Author	Means of Inoculation*	Duration	Results
Chickens	L'Esperance (1931)	I.V.	1 to 10 months	Apparent tubercle bacillus developed in some.
Chickens, guinea pigs, rabbits, dogs, mice	Steiner (1934)	I.V., I.P., I.C., S.C.	.....	Negative.
Guinea pigs	Forbes & Gunther (1941)	I.P.	Variable	No specific lesions.
Guinea pigs, mice, rabbits, rats	Twort (1930)	I.P., Brain, S.C., Nasal, Oral	Months	Negative, except rare guinea pig skin reaction.
Guinea pigs, rabbits	McGrath (1933)	S.C., I.V., I.C., I.P.	.....	Negative, except rare guinea pig skin reaction.
Monkeys	Bunting & Yates (1914)	S.C. and into tonsil area	1 to 3 months	Lymph node which histologically "leaves no question as to the relation to human Hodgkin's disease."
Monkey	McGrath (1933)	S.C., I.V., I.P.	.....	Negative.
Rabbit	Gordon (1932)	All routes	Variable	Negative. "Gordon test."
Man	Tyzzer (1916)	S.C.	Weeks	No tumors resulted.

*Key to abbreviations: I.V.—Intravenous; I.P.—Intraperitoneal; I.C.—Intracerebral; S.C.—Subcutaneous.

the inoculation material was prepared from nodes from Hodgkin's disease patients and in only about 2 per cent of cases when "control" lymph nodes were used. In the rabbits the microscopic changes were non-specific, and the reaction could not be transmitted to a second rabbit. Guinea pigs were later found to respond in a similar manner.

The encephalitogenic agent remained potent for up to two years, withstood 65° C. but not 70° C. for 30 minutes, and was filterable. These observations of Gordon were confirmed, but the same reactions were produced by inoculation with preparations made from other tissues, especially normal human bone marrow, spleen and leukocytes. Further search revealed that this encephalitogenic agent had many features in common with the proteolytic enzyme of Jockmann, a substance which was found in many normal tissues and which caused encephalitis in rabbits. Although the parallelism between the Gordon phenomenon and Jockmann proteolytic enzyme was not complete, it was sufficient to warrant the conclusion that they are essentially similar substances. A further correlation was made with eosinophilia, so frequently found in lymph nodes of patients with Hodgkin's disease. Turner, Jackson and Parker[25] were able to correlate the presence of these cells with the occurrence of a positive reaction to the Gordon test, and McNaught[17] concluded that the Gordon test was essentially a test for the presence of eosinophils in the tissues.

Gordon also reported the presence of elementary bodies in suspensions of Hodgkin's disease lymph nodes which bore a striking morphologic resemblance to the elementary bodies of vaccinia and psittacosis. He was not able to establish any specific characteristics of the bodies which he observed and photographed. He prepared a "sensitized vaccine" to these particles, but therapeutic use of it was unsuccessful. Grand[11] reinvestigated the apparent elementary bodies in Hodgkin's disease by the use of tissue culture techniques. He reported that Hodgkin's disease tissue contained specific cell inclusions and that the addition of acellular Hodgkin's disease extracts to tissue culture of chorio-allantoic membranes of chicken eggs caused those specific inclusions to appear in the cultures.

Hoster and co-workers[13] partially repeated Grand's work but were not able to confirm his findings, and they remarked that inclusion bodies occurred in many apparently normal chicken membrane tissues.

Rottino and co-workers[21] also concluded that the changes were non-specific.

A thorough study of Hodgkin's disease extracts by employing the technique of fertile chicken egg passage was made by Bostick.[2] In early investigations it was demonstrated that sterile, Seitz-filtered amniotic fluid from Hodgkin's disease-inoculated eggs was lethal to chicken embryo in a greater percentage of instances than was control amniotic fluid. Evidence for the presence of this filterable factor was sought by many accepted procedures in virology and immunology.

Hemagglutination techniques, animal injections, cutaneous sensitivity, flocculation and precipitin tests were surveyed without significant results (Bostick[3]). Attention was then directed toward the capacity of this factor to interfere with the growth of known viruses in chicken eggs.

The virus interference studies encompassed a survey of many viruses. However, the most promising results were apparent initially with influenza A virus. After seven days of initial incubation, the eggs were inoculated with Hodgkin's disease amniotic fluid derived from other egg passages. After three days of further incubation, the challenging virus, influenza, was introduced. After 18 hours of incubation the amniotic fluid of all eggs was harvested and titred for the amount of influenza in them. This titre was determined by means of the hemagglutination technique of Salk,[22] which is based upon the fact that influenza virus is capable of hemagglutinating human erythrocytes essentially in proportion to the amount of virus present.

The Hodgkin's disease material derived from 12 separate patients interfered with the growth of influenza virus. Parallel control material showed no such capacity. This property of extracts of ground Hodgkin's disease material was retained even after 10 to 15 serial passages in fertile chicken egg amniotic sacs and after Seitz filtering. Thus, many of the characteristics of a virus are possessed by this factor, which may also be the same factor which produces the slight lethal effect on the chicken embryos. In the Hodgkin's disease-inoculated embryos no gross or microscopic evidence of pathologic change was observed. These data strongly support a postulation that there is consistently in Hodgkin's disease tissues a factor which is not present in normal or carcinomatous tissues. It is most unlikely that this factor is some incidentally isolated agent that may be present in many random lymph nodes, since it was not encountered in the control lymph node tissues. These interference phenomena offer for the first time a practical tool by which Hodgkin's disease can be extensively studied from a promising etiological aspect.

REFERENCES

1. Billings, F., and Rosenow, E. C.: The etiology and vaccine treatment of Hodgkin's disease, J.A.M.A., 61:2122-2123, Dec. 13, 1913.

2. Bostick, W. L.: The serial passage of Hodgkin's disease tissue extract in chicken eggs, J. Immunol., 59:189-193, June 1948.

3. Bostick, W. L., and Hanna, L.: Ready for publication.

4. Bunting, C. H., and Yates, J. L.: An etiologic study of Hodgkin's disease, J.A.M.A., 62:516, Feb. 14, 1914.

5. Desjardins, A. V.: Etiology of lymphoblastoma, J.A.M.A., 103:1033-1036, Oct. 6, 1934.

6. Ewing, J.: Neoplastic Diseases, Philadelphia, W. B. Saunders Co., 1928.

7. Fitchett, M. S., and Weidman, F. D.: Generalized torulosis associated with Hodgkin's disease, Arch. Path., 18:225-244, Aug. 1934.

8. Fox, H.: Studies in diphtheroids, Arch. Int. Med., 16:465-480, Sept. 1915.

9. Fraenkel, E., and Much, H.: Über die Hodgkinische Krankheit (Lymphomatosis Granulomatose), Ztschr. f. Hgy. u. Infektionskr., 67:159-200, 1910.

10. Gordon, M. H., Gow, A. E., Levitt, W. M., and Weber, F. P.: Recent advances in the pathology and treatment of Hodgkin's disease, Roy. Soc. Med., 27:1035-1050, June 1934.

11. Grand, C. G.: Cytoplasmic inclusions and the characteristics of Hodgkin's disease. Lymph nodes in tissue culture, Cancer Res., 9:183-192, Mar. 1949.

12. Hoster, H. A., Doan, C. A., and Schumacher, M.: Studies in Hodgkin's syndrome; search for brucella in Hodgkin's syndrome, Proc. Soc. Exper. Biol. and Med., 57:86-88, Oct. 1944.

13. Hoster, H. A., Riddle, J. W., Heise, M. D., Flower, M. S., Reiman, M. S., Shamley, M. E., Welshimer, B. J., and Doan, C. A.: Studies in Hodgkin's syndrome, Ohio State Med. J., 43:721-724, July 1947.

14. Jackson, H., and Parker, F.: Hodgkin's disease—general considerations, New Engl. J. Med., 230:1-8, Jan. 6, 1944.

15. L'Esperance, E. S.: Studies in Hodgkin's disease, Ann. Surg., 93:162-168, Jan. 1931.

16. McJunkin, F. A.: Histologic resemblance of the Rous chicken sarcoma No. 1 to Hodgkin's granuloma, J. Cancer Res., 12:47-52, March 1928.

17. McNaught, J. B.: The Gordon test for Hodgkin's disease: a reaction to eosinophils, J.A.M.A., 111:1280-1284, Oct. 1, 1938.

18. Miller, H. E., Keddie, F. M., Johnstone, H. G., and Bostick, W. L.: Histoplasmosis, Arch. Dermatol. & Syph., 56:715-739, Dec. 1947.

19. Parsons, P. B., and Poston, M. A.: Pathology of human brucellosis with respect to Hodgkin's disease, South. Med. J., 32:7-13, Jan. 1939.

20. Reed, D. M.: On the pathological changes in Hodgkin's disease with special reference to its relationship to tuberculosis, Johns Hopkins Hosp. Report, 10:133-196, 1902.

21. Rottino, A., Worken, B., and Hollender, A.: A study of the behavior in tissue culture of lymph nodes from Hodgkin's disease, Am. J. Path., 24:669-670, May 1948.

22. Salk, J. E.: A simplified procedure for titrating hemagglutinating capacity of influenza virus and the corresponding antibody, J. Immunol., 49:87-98, Aug. 1944.

23. Steiner, P. E.: Etiology of Hodgkin's disease; skin reactions to avian and human tuberculin proteins in Hodgkin's disease, Arch. Int. Med., 54:11-17, July 1934.

24. Sternberg, C.: Über eine eigenartige unter dem Bilde der Pseudoleukämie verlaufende Tuberculose des lymphatischen Apparates, Ztsch. f. Heilk., 19:21-90, 1898.

25. Turner, J. C., Jackson, H., and Parker, F.: Etiologic relation of eosinophils to Gordon phenomenon in Hodgkin's disease, Am. J. Med. Sci., 195:27-32, Jan. 1938.

26. Twort, C. C.: Etiology of lymphadenoma; summary of six years' researches, J. Path. & Bact., 33:539-546, July 1930.

27. Van Rooyen, C. E.: Etiology of Hodgkin's disease with special reference to B. tuberculosis avis, Brit. Med. J., 1:50-51, Jan. 14, 1933.

28. Wise, N. B., and Poston, M. A.: The co-existence of brucella infection and Hodgkin's disease. Clinical, bacteriologic and immunologic study, J.A.M.A., 115:1976-1984, Dec. 7, 1940.

Common Errors in the Management of Acute Myocardial Infarction

A Critical Analysis of 58 Fatal Cases

David S. Rubsamen, M.D., *Chicago*

SUMMARY

Three prominent errors were observed in the management of 58 fatal cases of acute myocardial infarction.

Pain was inadequately relieved in over one-third of the patients.

In several other cases rest was inadequate, with attendant complications.

In three cases sudden death was preceded by irregularities of cardiac rhythm which were noted but not treated.

THERE are several generally accepted principles in the treatment of acute myocardial infarction. Rest and the relief of pain are unvarying rules, and it is agreed that control of arrhythmias and efforts to combat anoxemia and cardiac failure are often indicated.

In an effort to reduce the death rate from myocardial infarction, it is deemed of interest to survey, especially in relation to these principles, the management of this disease in a private institution where both specialists and general practitioners treat patients.

MATERIAL

This presentation analyzes the methods of management in 58 fatal cases of acute myocardial infarction in a 450-bed private hospital in a period of two and one-half years. The only basis of selection of these cases was that the diagnosis of acute myocardial infarction was unequivocal and verified by characteristic electrocardiographic patterns and/or at autopsy. Autopsy was done in 28 instances. Thirty of the patients were treated by 26 general practitioners, and 28 were treated by 11 internists.

There are 39 males and 19 females in this series, ranging in age from 45 to 82 years, and averaging 63 years. The age distribution and the time elapsed in the hospital before death were as follows:

Age Group	Number of Patients
40 - 50	7
51 - 60	19
61 - 70	18
71 - 80	12
81 - 90	2

Length of Stay in Hospital Before Death	Number of Patients
1 - 6 hours	10
6 - 24 hours	10
1 - 3 days	14
Up to 1 week	8
Up to 2 weeks	10
Up to 4 weeks	6

DIAGNOSIS

In six cases the diagnosis of acute myocardial infarction was not made until autopsy. In one of these cases, angina was confused with pain from a recent abdominal operation. In another the patient had chronic rheumatic heart disease with mitral stenosis, and the course was typical of congestive failure; although the patient had some angina, it was disregarded. In a third case, in which the diagnosis was "severe angina," the patient died suddenly a few hours after entry; and in another hemiplegia and coma developed at about the probable time of the infarct. In none of these four cases was an electrocardiogram made. In the remaining two cases, symptoms typical of acute myocardial infarction were lacking, and the electrocardiogram pattern did not suggest it. In one of these two, infarction was directly posterior; in the other a right bundle branch block obscured the pattern. In this latter case ambulation was permitted, and in a few days the left ventricle ruptured.

Diagnosis in the rest of the cases in this series was made before or within a few hours after hospital entry.

RELIEF OF PAIN

In all but four of the 58 cases in this series, the patient entered the hospital with some degree of chest discomfort. These 54 patients may be divided into three groups:

A. Thirty-one were relieved of chest distress within one and one-half hours after entering the hospital.

B. Nine had moderate chest pain (sufficient to cause frequent complaint) for a period of from one and one-half to 36 hours after entry.

C. Fourteen had severe chest pain for more than two hours after entry. The nurses' notes described the distress of these 14 patients in terms such as "unbearable," "excruciating," "very severe."

In none of the 23 cases included in Groups B and C did the patient's physician stay with him until the pain was relieved, and only one patient received

From the medical department, Seaside Memorial Hospital, Long Beach, California.

intravenous sedation. In nearly all of these 23 cases some narcotic such as morphine, Demerol,® or Dilaudid® was given hypodermically within a few minutes after entry. It evidently was assumed, however, that once the narcotic was given the pain would shortly be gone; and often three or four hours elapsed between injections. In several cases the physician followed the order for sedation with the direction "every four hours as needed for pain," thus encouraging disregard of the pain when it persisted.

More than half of the 14 patients in Group C (severe chest pain) had some degree of decreased peripheral vascular supply, and five were in frank shock, but conscious. As these patients were unable to absorb adequately the narcotic deposited in the peripheral tissues, they received little or no relief of pain. Five of the patients in this group died within three hours after entry, 12 within two days. None of the five who died within three hours were relieved of pain before death.

It is a possibility that relief of pain in these cases would have improved the prognosis. Indeed, pain may well have been the cause of death of at least one patient, a 67-year-old man with a long history of hypertension and angina pectoris but no other disease. He entered the hospital four hours after the onset of substernal pain which radiated to the arms and which he described as unbearable. He was in shock, but conscious and alert, and the blood pressure was 80 mm. of mercury systolic and 60 mm. diastolic. Two 10 mg. subcutaneous injections of morphine sulfate did not diminish the pain, and acute pulmonary edema developed three hours after admission to hospital. In another hour the patient died. (In the last half hour he was relieved of pain by intravenous injection of 10 mg. of morphine sulfate.) Autopsy revealed recent coronary occlusion without demonstrable myocardial infarction. The conclusion that pain reflexly produced pulmonary edema, and hence was the primary cause of death, is at least plausible.

Most of the 23 patients with protracted chest pain became progressively weaker and died undramatically. Four died abruptly. Autopsy was done in only one of the four cases; rupture of the left ventricle was noted.

REST

There was a prolonged period of pronounced restlessness in seven cases not included in groups B and C. These patients were given almost no sedation because they complained little of pain. One had frequent nausea and vomiting, and three were repeatedly out of bed. Autopsy in the former case and in one of the latter revealed ventricular rupture (which occurred on the third and sixth days respectively). The remaining three of these seven patients suffered constant anxiety, and two of them died very suddenly. Autopsies were not done.

ARRHYTHMIAS

It is well known that sudden, painless deaths in patients who are apparently improving after acute myocardial infarctions may be due to ventricular fibrillation, and careful observation will often reveal irregular cardiac rhythm preceding this catastrophe.[1]

In this series pronounced irregularity of the pulse was noted in three cases a few hours before abrupt, but painless, death. These patients were improving from moderately severe infarcts, two having entered eight days and one two days previously. Although the nurses had recorded these irregularities, the attending physicians were not informed, and none of these patients received quinidine. At autopsy, done in one case, an infarction limited to the septum was noted.

ABRUPT DEATH

There were twelve other deaths of similar, abrupt nature, but in these cases no irregularities of cardiac rhythm were recorded. These patients were all improving, and most of them had been in the hospital more than four days. Half were observed to die without pain, and the other half, although not observed at death, evidently had no warning, since none of them called a nurse. Autopsy was done in seven cases, and in four a ruptured left ventricle was observed (these were discussed elsewhere in this presentation). In the other three cases, however, there was no rupture or recent extension of the infarct; in two of them there was extensive necrosis in the superior portion of the interventricular septum. Three of these 12 patients, including the two with necrosis in the interventricular septum, were receiving quinidine.

In this group no error is implicit in the management of those patients who did not die of ventricular rupture. However, speculation with regard to paroxysmal arrhythmias, and the possible existence of prodromal irregularity of cardiac rhythm in some of these cases, seems permissible.

ADDITIONAL CASES

There are 18 cases not mentioned in the preceding categories. In those cases the patients became steadily worse, the majority dying with some degree of congestive failure. In each case this was treated adequately by accepted methods.

DICUMAROL

Reports of several large series testify to the efficacy of anticoagulants in reducing the incidence of thromboembolic phenomena in myocardial infarction.

Thirty-nine of the patients in this series did not receive dicumarol, and in one of these cases a cerebral embolus may have been the cause of death. No venous thromboses were observed.

Of the 19 patients who received dicumarol, one had frank hematuria, but in no case was bleeding a factor in the patient's death. Neither emboli nor thromboses occurred in this group.

DISCUSSION

There were three prominent errors in the management of a large proportion of the 58 patients who died of acute myocardial infarction.

First, the cardinal principle of relief of pain was poorly observed in 23 cases; in over one-half of them there was protracted pain of such severity that it might well have played a significant role in the fatal outcome. It is noteworthy that a narcotic was given promptly in nearly all of these cases on the assumption that once the medication was ordered the patient's pain would shortly be abolished. Intravenous sedation was clearly indicated for the several patients who had decreased peripheral vascular supply. Those in this group who were in frank shock might have been brought out of this grave state if the pain had been promptly relieved.

Second, rest was inadequate in several cases. Omission of adequate sedation, presumably because the patients did not complain of pain, resulted in pronounced restlessness in six cases, in one of which the patient died of a ruptured right ventricle. In another case several days of vomiting were culminated by left ventricular rupture.

Third, three patients in this series had irregular pulse a few hours before sudden, painless death. In each case the nurse who recorded this irregularity did not inform the physician, and quinidine, which might have averted the disaster, was not given.

1804 West Congress Street, Box 503.

REFERENCE

1. Levine, Samuel A.: Clinical Heart Disease, 3rd Ed., W. B. Saunders Co., Philadelphia, 1945.

The Use of the Benzidine Test for Occult Blood in Abnormal Mammary Secretions

Clarence E. Rees, M.D., *San Diego*

WHEREVER and whenever breast tumors are discussed the importance of bloody discharge from the nipple is stressed. Bloody discharge usually indicates an intraductal tumor which may or may not be malignant, and it is current opinion that the segment from which the blood comes should be surgically explored.

The discharge from these lesions is not constant. If the blood in the discharge is fresh, the erythrocytes are readily found in the smear, but if the blood in the discharged material is old the erythrocytes have disintegrated and do not appear on the smear. Intraductal debris may also cause secretion of material suggestive of old blood.

From the Department of Surgery, Rees-Stealy Clinic.

Because the presence of blood in the excreted material is an important point in the diagnosis of intraductal tumor, great care should be taken that it not be overlooked if present. The benzidine test is a valuable adjunct to the usual methods of determining the presence or absence of blood in abnormal mammary secretions. In order to be certain of the presence of blood in the discharge, it has been the practice for several years at this clinic to request that the benzidine test for occult blood be used in examining the secretion if erythrocytes are not readily found otherwise. If blood is found to be present by this test, the fact is considered diagnostic of intraductal tumor and exploration is recommended.

2001 Fourth Avenue.

The Establishment and Operation of a Nerve Block Clinic

One Year's Experience at the Los Angeles County Hospital

J. S. Denson, M.D., *Los Angeles*

SUMMARY

The Anesthesia Department at the Los Angeles County Hospital established a Nerve Block Clinic for the purpose of alleviating pain and providing helpful information for diagnosis in a number of diseases.

During the first year of operation of this Nerve Block Clinic, over one thousand injections were made. The patients who received the injections were referred to the Nerve Block Clinic by staff members who had been apprised of the services offered.

EVER since Halstead in 1885 demonstrated the use of cocaine as a local and topical anesthetic agent in the United States, physicians have been searching for better drugs and more efficient methods to alleviate the pain of surgical procedures and the pain produced by disease and injury. In recent years anesthesiologists have given more and more attention to non-surgical pain as their knowledge of nerve block procedures to alleviate it has increased. In particular this attention has been directed toward the treatment of the painful states of various diseases and trauma. About two years ago the Anesthesia Department of the Los Angeles County Hospital established a diagnostic and therapeutic Nerve Block Clinic. In preliminary consideration of the project, the first and basic requirement, of course, was a suitable room, preferably large enough to permit the treatment of several patients at one time and conveniently accessible to both hospital patients and out-patients. The room should also be in a quiet section of the hospital and, if possible, air-conditioned so that the temperature might be controlled at a constant level. These requirements were readily fulfilled except that air-conditioning was not available. The equipment necessary, in addition to a few pieces of furniture, was that already available to the modern anesthesia department, namely, an operating table, a liberal supply of various-sized needles, syringes, sterilizing solutions, local anesthetic agents, Pentothal,® and apparatus for delivering 100 per cent oxygen under positive pressure. Personnel requirements were met by the acquisition of a nurse whose duties consist of assisting the operator and caring for the equipment.

Once the necessary equipment had been assembled, the next step was the dissemination of information concerning the Nerve Block Clinic. Many physicians are, unfortunately, as yet unaware of the diagnostic and therapeutic services that an anesthesia department may render through such a clinic, so that this step is of vital importance. At the Los Angeles County Hospital this step was completed by three lines of action. First, a memorandum was sent to all department heads, house staff physicians, and the nursing department apprising them of the existence of the Nerve Block Clinic, its location, and a brief summary of the services it offered. Second, a member of the anesthesia service addressed a regular monthly meeting of the house staff, outlining the various types of pain syndromes that are amenable to nerve block therapy and the diagnostic procedures which are available. Third, the members of the anesthesia staff personally contacted all the senior resident physicians in the hospital and informed them of the functions of the Nerve Block Clinic. As a result of these measures, over one hundred patients were observed in consultation during the first month of operation of the Nerve Block Clinic.

The therapeutic procedures undertaken were performed as indicated after noting the referring physician's request, taking a careful history from the patient and completing a careful physical examination. Diagnostic procedures were also completed as requested unless contraindicated. The patient's history relevant to the condition under consideration was recorded along with an accurate summary of the objective signs before and after each nerve block. Subjective reactions of the patient were also noted in the record. The Nerve Block Clinic record of each patient was filed alphabetically so that it will be available for ready reference at each subsequent visit of the patient. A Hollerith punch card was completed for each case for the preparation of numerical statistics. Finally, a consultation report embodying the information noted was placed in each patient's chart. In the majority of cases the nerve blocks were performed by residents in the Anesthesia Department.

Before each nerve block is started, the nature of the nerve block must be explained to the patient and his written consent obtained for the procedure. This written permission is incorporated in the patient's permanent hospital chart. Favorable results from

Presented before the Section on Anesthesiology at the 79th Annual Session, April 30-May 3, 1950, San Diego.

From the Department of Anesthesia, Los Angeles County Hospital, and the University of Southern California Medical School.

any nerve block procedure should never be promised. It should be emphasized to the patient that each nerve block is a therapeutic trial or a diagnostic test. However, the patient should be informed of the probable effect of the block on the pain which he feels or of the diagnostic information the proposed block should reveal. It is important, in addition, that the patient realize that a series of blocks may be necessary to accomplish the desired therapeutic or diagnostic results. One word of caution might well be injected at this point: Nerve block should not be repeated if, during the block or immediately after completion of the block, the condition under treatment is aggravated or the pain more intense. This, of course, does not apply to the momentary paresthesias which are necessarily produced in order to complete certain types of blocks. On the other hand, according to Livingston,[1] intensification of the pain after the effect of the local anesthetic agent has worn off warrants further blocking with the expectation of a better prognosis. It should also be ascertained at this time whether the patient has ever had a reaction to a previous injection of a local anesthetic agent.

There are a number of types of pain which usually can be successfully relieved by nerve block therapy. There are perhaps many more for which nerve blocking has little, if anything, to offer. For the most part, the effect a nerve block may have on pain in any case cannot be determined until a therapeutic trial has been made. Table 1 contains a list of painful syndromes in which nerve block therapy is usually successful.

TABLE 1.—*Pain Syndromes Which Usually Respond to Nerve Block Therapy*

1. Acute thrombophlebitis.
2. Acute herpes zoster.
3. Shoulder pain.
4. Phantom-limb.
5. Phantom-limb pain.
6. Causalgia.
7. Post-traumatic pain syndrome.
8. Postoperative neuritis.
9. Tic douloureux and trigeminal neuralgia.
10. Laryngeal tuberculosis.
11. Angina pectoris.
12. Trigger-point pain.
13. Low back pain.
14. Pain from malignancy (10 to 30 per cent).
15. Pain from peripheral vascular disease.

Table 2 lists some of the conditions in which nerve blocks may be of value from a diagnostic viewpoint.

The majority of patients referred to the Nerve Block Clinic had peripheral vascular disease. As a constant-temperature room was not obtainable, the diagnostic significance of temperature changes in these patients was of little value. However, a large number of these patients had pain to some degree as a result of the disease they had, and in nearly every instance this pain was relieved by blocking the lumbar sympathetic nerves. In addition, an improvement in the color of the skin was frequently observed, and many patients experienced a sense of warmth in the extremity.

TABLE 2.—*Diagnostic Nerve Blocking*

1. Peripheral vascular disease.
2. Herniated nucleus pulposa.
3. Low back pain.
4. Value of sympathectomy in hypertensive heart disease.
5. Differentiation of central and peripheral pain mechanisms.

Table 3 lists the types of nerve block and the number of times each was performed during a period of nine months.

TABLE 3.—*Nerve Blocks Performed in 1949*

Block	April 1-Dec. 31
Lumbar sympathetic	474
Epidural	300
Stellate	164
Thoracic somatic	37
Lumbar somatic	20
Spinal (diagnostic)	19
Suprascapular	17
Brachial plexus	11
Mandibular	5
Cervical plexus (deep)	4
Thoracic sympathetic	3
Intercostal	3
Phrenic	2
Mental	1
Infiltration (headache)	1
Caudal	1
Sciatic	1
Pudendal	1
Total	1,065

At the present, two solutions are in daily use at the Los Angeles County Hospital Nerve Block Clinic: procaine (0.5 - 2.0 per cent), and pontocaine (0.1 - 0.2 per cent). The pontocaine solutions have been used in over 500 nerve blocks without a single reaction of any kind being observed. The 0.1 per cent solution of pontocaine blocked the sympathetic nerves effectively, but, in the author's experience, did not completely anesthetize the major somatic nerves. Pontocaine in concentrations of 0.2 per cent was uniformly successful in blocking conduction along the major nerve trunks.

There are several general principles which should be kept in mind with regard to nerve block therapy.

First, the nerve block itself should not cause the patient to experience more pain than he already has.

Second, the block to be performed must not interfere with vital functions already compromised by disease.

Third, careful aspiration must be performed in two or more planes before each injection so that

the anesthestic solution may not be inadvertently injected into the blood stream, or into the pleural or subarachnoid spaces.

Fourth, the label of each solution must be read carefully before the syringe is filled.

And, fifth, no local, topical or regional anesthetic procedure should be undertaken without having ready for immediate use:

1. A syringe with needle attached containing Pentothal® in solution.

2. Equipment suitable for performing artificial respiration with 100 per cent oxygen under positive pressure.

3. Vasopressor drugs such as ephedrine sulfate and Neosynephrin.®

This equipment is absolutely essential for the successful treatment of a convulsive reaction following too rapid absorption of too great a quantity of a local anesthestic agent. The time factor is one of vital importance in the successful treatment of this type of reaction. If the convulsions are stopped immediately with an intravenous barbiturate and the patient ventilated artificially until his own respiratory efforts are adequate, the patient nearly always survives unharmed. If time is lost in mixing a solution or in assembling apparatus for administering oxygen, the patient usually dies. So far as is known, the barbiturates are not chemical antidotes for the local anesthetic drugs. Rather, the pharmacological action of the barbiturates in the treatment of such convulsions is simply one of depression of the motor cortex to the point where it will no longer respond to the stimulating action of the local anesthetic drug.

The mild type of "procaine reaction"—dizziness, anxiety, nausea—requires no treatment other than reassurance. It is self-limited to 10 to 15 minutes in duration. Premedication with the usual dose of a barbituric acid derivative will not prevent either of these types of reaction, although it may lessen the severity of the mild type.

REFERENCE

1. Livingston, W. K.: Pain Mechanisms. The Macmillan Company, New York City, 1944, p. 172.

Coccidioidomycosis as a Complication of Pregnancy

J. E. Vaughan, M.D., and Hall Ramirez, M.D., *Bakersfield*

SUMMARY

Records of 33 cases of coccidioidomycosis occurring during pregnancy were reviewed. In this group the incidence of dissemination of the disease was considerably greater than the reported incidence of dissemination in all cases of coccidioidomycosis.

The incidence of dissemination was higher in the patients who contracted coccidioidomycosis late in pregnancy than it was in those in whom onset of the disease occurred earlier in gestation; but dissemination occurred in all Negro patients in the group, regardless of the time of onset during pregnancy.

The chief complicating effect when onset was in the first trimester of pregnancy was a tendency to abortion. In cases in which onset was in the third trimester, the incidence of premature labor was extremely high.

There was no evidence of congenital infection in any of the babies, but in one case invasion of the placenta by coccidioidal spherules was observed.

COCCIDIOIDOMYCOSIS occurring during the course of pregnancy has received little comment in the current literature until recently.[9] The work of Gifford[5] and Dickson[4] stimulated further study of the disease. Smith[11] and his co-workers have contributed much to present knowledge. The epidemiology,[12] the importance of the coccidioidin skin test,[14] the extent of the endemic area and the introduction of serological tests in the diagnosis and prognosis of the disease[13] are some of the important contributions. The knowledge that merely driving through an endemic area may result in infection adds to the significance of the disease in differential diagnosis in the western states. The purpose of this presentation is to show the effect of the disease on the course of pregnancy and on the offspring.

Since reporting of non-disseminating coccidioidomycosis is not required, knowledge of its association with pregnancy is incomplete. Case histories of 33 cases of coccidioidomycosis occurring in pregnancy in the period 1942-1949 were obtained from physicians and hospital records in Kern County. Of these, 28 occurred in the 1946-1949 period. The diagnosis in each instance was confirmed by clinical, laboratory, biopsy, and in some instances, autopsy evidence. This presentation will consider mainly the 28 cases that occurred in the four years 1946-1949. During that period there were 25,328 births, live and stillbirths, recorded in Kern County. Thus, the incidence of known cases of coccidioidomycosis was approximately one in 900 pregnancies. Hertig[7] in a study of abortion concluded that spontaneous abortion occurred in approximately ten per cent of all pregnancies. On this basis the corrected incidence of infection would be approximately one in 1,000 pregnancies. It is significant, however, that three of the four maternal deaths reported in Kern County for the year 1948 were due to disseminated coccidioidomycosis. Reaction to coccidioidin skin tests done routinely at the time of first prenatal visit was positive in approximately 40 per cent of 800 private cases. Dissemination did not occur in any of the cases in which there was previous coccidioidal infection. Cohen and Burnip[2] reported positive reaction in 47 per cent of mothers at time of delivery in county hospital cases.

Early in this study the authors were impressed with the apparent severity and rapidity of generalized dissemination of the disease when it occurred in the latter part of pregnancy. For this reason the cases are divided into four groups: first, those in which the patients were known to have coccidioidomycosis preceding onset of pregnancy; second, those in which coccidioidomycosis was contracted during the first trimester of pregnancy; third, those in which coccidioidomycosis was contracted during the second trimester; fourth, those in which the disease was contracted during the third trimester.

In Group I (known coccidioidomycosis preceding pregnancy) there were five patients, all of whom recovered (Table 1). Tests carried out on all of these patients showed the presence of complement fixing antibodies without the presence of precipitins before onset of pregnancy. There were complications in four of the five cases: In one case spontaneous abortion occurred at two and one-half months, in two others there was threat of abortion, and one patient had a pulmonary hemorrhage in the first trimester with an interruption of pregnancy. Two patients were delivered of viable infants at term: neither of the babies showed evidence of coccidioidomycosis, but in one there was evidence of humoral or passive transfer of antibodies through the placenta. Reaction to a subsequent coccidioidin skin test was negative.

In Group II (coccidioidomycosis occurring during first trimester) there were 12 patients—ten Caucasians, one Negro, one Mexican (see Table 2). The Negro patient died, the others recovered. There

Presented before the Section on Obstetrics and Gynecology at the 79th Annual Meeting of the California Medical Association, San Diego, April 30-May 3, 1950.

was no evidence of coccidioidomycosis in any of the babies.

CASE REPORT

A Negro woman 20 years of age (Case 12, Table 2) was admitted to hospital when approximately three months pregnant, with bleeding and cramping. Spontaneous abortion followed. Skin lesions of short duration were noted. Coccidioidal spherules were observed in biopsy of aspirated material. Reaction to a complement fixation test was +++ at 1:128 dilution. Precipitin reaction was ++++ at 1:40 dilution. A diagnosis of disseminated coccidioidomycosis of fairly recent origin was made. Actidione, a fungistatic antibiotic, was given. The skin lesions healed rapidly, but approximately three months later the patient died.

Buss, Gibson and Gifford[1] noted that although the non-white group constitutes only about 8 per cent of the population in Kern County, 50 per cent of coccidioidal dissemination occurs in that group.

Gifford[6] called attention to the fact that in recent years more of the non-granulomatous, non-fatal type of coccidioidal disease had been reported, with more cases in women than in men.

TABLE 1.—*Patients With Known Coccidioidomycosis Preceding Onset of Pregnancy*

Case	Age	Date of Onset	Race	Last Menstrual Period	Serology: Comp. Fixation Dilution 1:2	1:4	1:8	Precip.	Complications During Pregnancy	Outcome: Mother	Outcome: Infant
1	32	May 1945	White	Nov. 1945	++++	+	0	0	Threatened ab. 3rd month	Recovery	Term viable. No evidence of coccid.
2	24	1942	White	Oct. 1949	++++	0		0	Cavity in left apex. No other complications.	Undelivered	Undelivered
3	34	Oct. 1947	White	March 1949	++++	++	+	0	Spont. abortion 2½ months.	Recovery	.....
4	26	April 1948	White	May 1948	++++	+	+	0	Extreme malaise. Uterine contractions.	Recovery	Term viable. Skin test neg. Passive transfer of antibodies
5	21	Feb. 1947	White	May 1947	++++	0	0	0	Pulmonary hemorrhage 1st Trimester	Recovery	Therapeutic abortion

TABLE 2.—*Cases in Which Coccidioidomycosis Was Contracted During First Trimester of Pregnancy*

Case	Age	Race	Complications During Pregnancy	Outcome: Mother	Outcome: Infant
1	18	W	None	Recovery	Term viable. No evidence of coccidioidomycosis.
2	23	W	None	Recovery	Term viable. No evidence of coccidioidomycosis.
3	23	W	Threatened abortion, 2nd month	Placenta previa bleeding at term. Section. Recovery.	Term viable. Skin test for coccidioidomycosis negative.
4	25	W	None	Recovery	Term viable. Skin test for coccidioidomycosis negative.
5	26	W	Premature separation of placenta	Section. Recovery	Stillbirth. No evidence of coccidioidomycosis.
6	17	W	None	Recovery	Term viable. No evidence of coccidioidomycosis.
7	29	W	Erythema nodosum. Extreme malaise. Agglut. and Precip. disappeared.	Undelivered, condition good.	.....
8	21	W	None	Recovery	Term viable. No evidence of coccidioidomycosis.
9	20	W	Threatened abortion	Recovery	Term viable. No evidence of coccidioidomycosis.
10	23	W	None	Recovery	Term viable. No evidence of coccidioidomycosis.
11	22	Mexican	None	Recovery	Term viable. No evidence of coccidioidomycosis.
12	20	Negro	Spontaneous abortion. Dissemination. Treated with actidione.	Fatal	.....

In Group III (coccidioidomycosis occurring during second trimester) there were five patients, three of whom completely recovered without dissemination. Dissemination occurred in two patients, one of whom died. The other was still alive two years after dissemination occurred (see Table 3).

CASE REPORTS

Coccidioidomycosis developed in a 34-year-old white woman during the fifth month of pregnancy (Case 3, Table 3). Dissemination to the meninges occurred shortly thereafter. The patient was given diethylstilbestrol for control of uterine contractions, and, in addition, actidione. A viable infant was delivered spontaneously at term. Results of simultaneous serologic studies on mother and infant were interpreted as being suggestive of humoral transfer of antibodies through the placenta. There was no pathologic evidence of coccidioidal granuloma of the placenta. At the time of this report the patient was still living, but studies of the spinal fluid gave evidence of continuing infection. Later, a complement fixation test of blood from the infant showed a doubtful reaction with 1:2 dilution of serum.

* * *

Generalized coccidioidal dissemination developed in a Negro woman 22 years of age in the fifth month of pregnancy. The condition of the patient deteriorated rapidly in spite of all treatment, including actidione. A viable infant was delivered prematurely. Serologic studies gave evidence of passive transfer of maternal complement fixing antibodies to the infant. In pathologic examination of the placenta numerous large and small lesions were observed, both in the decidua and in the chorionic villi. The lesions were necrotic, some appearing caseous, others frankly purulent. These lesions were filled with spherules of coccidioides immitis. Spherules were of all sizes and stages of development. Some large spherules contained encapsulated endospores. Reaction to coccidioidin skin tests of the infant were negative. In a second serologic study, pronounced decrease in the titer of complement-fixing antibodies was noted. The infant died six weeks after birth. All tissues were examined pathologically and no evidence of coccidioidal granuloma was observed.

Cohen[3] reported a case of coccidioidal infection in an infant in the second week of life whose mother had San Joaquin fever during pregnancy. The placenta was not examined. Smale and Birsner[9] reported one case of coccidioidal granuloma of the placenta. However, no information was obtained regarding the mother or the infant.

In Group IV (coccidioidomycosis occurring during the third trimester) there were 11 patients—six Caucasians, four Negroes and one Chinese. Four of the Caucasians had no complications and were delivered of full-term viable infants without evidence of coccidioidomycosis. Generalized dissemination occurred in the other two, who were delivered of premature viable infants; there was no evidence of coccidioidomycosis in the infants. A similar course developed in the case of the one Chinese patient, who delivered a premature viable infant. In four cases in Negroes there was rapid dissemination. One patient was given actidione without any change in the course of the disease. It seems of significance that in Group IV there was a greater number of cases of generalized dissemination, and that dissemination occurred in two white women. Those with dissemination invariably delivered prematurely. Other than passive transfer of complement-fixing antibodies, there was no evidence of coccidioidal granuloma in offspring or in the placentae examined (see Table 4).

DISCUSSION

Smith[10] stated that dissemination occurs in not more than one case in five hundred or a thousand cases of coccidioidomycosis. Even taking into account the probability that two-thirds of primary infections are not diagnosed, the incidence of dissemination in this series still must be considered high. It was particularly high among patients who contracted the disease in the third trimester: Seven of the 11 patients died a short time after onset. Fatal dissemination occurred in all four of the Negro patients in this group.

Page and Bayers[8] reported a case of coccidioidomycosis which primarily involved the uterus, the fallopian tubes and one ovary. One other similar case had previously been reported. In no case in the present series in which autopsy was carried out was there pathological evidence of dissemination to the uterus, tubes or ovaries. However, multiple implants on the parietal and visceral peritoneum were frequently observed. In one case multiple areas of invasion by the spherules were noted in the placenta, but there was not, in this case or in any other in the

TABLE 3.—*Cases in Which Coccidioidomycosis Was Contracted During Second Trimester of Pregnancy*

Case	Age	Race	Complications During Pregnancy	Outcome	
				Mother	Infant
1	24	W	None	Recovery	Term viable. No evidence of coccidioidomycosis.
2	25	W	In car accident. Threatened abortion, premature labor.	Recovery	Premature non-viable. No evidence of coccidioidomycosis.
3	34	M	Acute onset. Developed meningitis fifth month. Uterine contractions treated with stilbestrol and actidione.	Alive. Still has cells in spinal fluid.	Term viable. Passive transfer of antibodies. No evidence of coccidioidomycosis.
4	26	W	None	Recovery	Term viable. No evidence of coccidioidomycosis.
5	22	Negro	Cutaneous lesions fifth month. Meningitis. Treated with actidione.	Fatal	Premature viable. Passive transfer of antibodies; spherules in placenta. Later autopsy of infant, no evidence of coccid.

series, any evidence of congenital infection of the infant. As far as could be determined, no congenital anomalies occurred as a result of the coccidioidal infection.

TREATMENT AND MANAGEMENT

Dyspnea, during the acute illness, which is commonly out of proportion to the demonstrable pathologic changes in the chest, is greatly relieved by rest. Rest appears to be the one important treatment. This should be carried out just as in cases of tuberculosis until the patient has recovered clinically. Blood sedimentation rate determinations and serological tests indicate the progression or regression of the lesions and may be used as a guide in controlling activity. The authors have found that much of a patient's fears concerning the disease can be relieved by telling him the following facts: First, the diagnosis of acute coccidioidomycosis cannot be established on the basis of positive reaction to a skin test alone; second, relapses do not occur after recovery from the disease; third, no cases of reinfection have been reported; and, fourth, it is not necessary to move from an endemic area to recover.

In an endemic area it is recommended that a coccidioidin skin test be done on pregnant women at the time of the first prenatal visit. If the reaction is positive, x-ray studies of the chest and serological tests should be carried out to determine the extent of the disease. Patients in whom symptoms of upper respiratory tract disease develop during pregnancy should be carefully studied for coccidioidal infection even though the reaction to the initial skin test was negative. A regimen of strict rest may forestall dissemination.

2109 Eighteenth Street.

TABLE 4.—*Cases in Which Coccidioidomycosis Was Contracted During Third Trimester of Pregnancy*

Case	Age	Race	Complications During Pregnancy	Outcome	
				Mother	Infant
1	29	W	Generalized dissemination, premature labor.	Fatal	Premature viable, coccid. skin test negative.
2	23	W	None	Recovery	Term viable. No evidence of coccid. Coccid. negative.
3	31	W	Generalized dissemination, premature labor.	Fatal	Premature (8½ mo.) viable. No evidence of coccid. Coccid. skin test negative.
4	24	W	None	Recovery	Term viable. No evidence of coccid.
5	25	W	None	Recovery	Term viable. No evidence of coccid.
6	21	W	None	Recovery	Term viable. No evidence of coccid.
7	24	Chinese	Generalized dissemination. Meningitis. Premature labor.	Fatal	Premature viable. No evidence of coccid. Skin test negative.
8	37	Negro	Generalized dissemination.	Fatal	Stillbirth. No evidence of coccid. recorded.
9	28	N	Generalized dissemination, premature labor.	Fatal	Premature viable. Passive transfer of antibodies. No evidence of coccid.
10	27	N	Generalized dissemination.	Fatal. Died undelivered.	Infant—no evidence of coccid.
11	19	N	Generalized dissemination, premature labor. Treated with actidione.	Fatal	Premature (8 mo.) viable. No evidence of coccid.

TABLE 5.—*Summary of Fatal Cases*

Case	Age	Race	Trimester of Onset	Outcome	Infant
1	29	White	3rd	Generalized dissemination	Premature viable, coccid. negative.
2	31	White	3rd	Generalized dissemination	Premature viable (8½ mo.) coccid. negative.
3	24	Chinese	3rd	Generalized dissemination	Premature viable. Coccid. negative.
4	37	Negro	3rd	Generalized dissemination	Stillbirth, no report on coccid.
5	28	Negro	3rd	Generalized dissemination	Premature viable, passive transfer of antibodies, no evidence of coccid.
6	27	Negro	3rd	Generalized dissemination	At term. Died undelivered. No evidence of coccid.
7	19	Negro	3rd	Generalized dissemination. Premature labor.	Premature viable (8 mo.). No evidence of coccid.
8	22	Negro	2nd	Generalized dissemination	Premature (7 mo.) viable, passive transfer antibodies. Coccid. negative.
9	20	Negro	1st	Spontaneous abortion 1st trimester. Generalized dissemination.	Spontaneous abortion (2½ mo.)

ACKNOWLEDGMENT

The authors gratefully acknowledge the assistance given by Dr. Charles E. Smith, Chairman of the School of Public Health, University of California; Dr. William C. Buss, Health Officer, Kern County Department of Public Health; Dr. Myrnie A. Gifford, Assistant Health Officer, Kern County Department of Public Health, and by the physicians of Kern County who contributed case reports.

REFERENCES

1. Buss, W. C., Gibson, T. E., Gifford, M. A.: Coccidioidomycosis of the meninges, Calif. Medicine, 72:167, March 1950.

2. Cohen, R., and Burnip, R.: Coccidioidin skin testing during pregnancy and in infants and children, Calif. Medicine, 72:31, Jan. 1950.

3. Cohen, R.: Coccidioides case studies in children, Arch. Ped., 65:241, June 1949.

4. Dickson, E. C.: Valley fever, Calif. & Western Medicine, 47:3, Sept. 1937.

5. Gifford, M. A.: (a) Annual report Kern County Health Department for the fiscal year, July 1, 1935, to June 30, 1936. (b) Gifford, M. A., Buss, W. C., and Douds, R. J.: Annual report Kern County Health Department for the fiscal year, July 1, 1936, to June 30, 1937.

6. Gifford, M. A.: Coccidioidomycosis, Kern County, for session on fungus infections, Sixth Pacific Science Congress of the Pacific Science Association, Aug. 2, 1939.

7. Hertig, Arthur T., and Livingstone, R. G.: Spontaneous, threatened and habitual abortion: Its pathogenesis and treatment, New England Journal of Medicine, 230:797-806, June 29, 1944.

8. Page, E. W., and Boyers, L. M.: Coccidioidal pelvic inflammatory disease, American Journal of Obst. & Gyn., 50: 212, Aug. 1945.

9. Smale, L. E., and Birsner, J. W.: Maternal deaths from coccidioidomycosis, J.A.M.A., 140:14, Aug. 6, 1949.

10. Smith, C. E.: Coccidioidomycosis, M. Clin. North America, 27:790, May 1943.

11. Smith, C. E.: Recent progress in pulmonary mycotic infections, Calif. Medicine, 67:179, Sept. 1947.

12. Smith, C. E.: An epidemiological study of acute coccidioidomycosis with erythema nodosum, Proceedings of the Sixth Pacific Science Congress, Vol. V.

13. Smith, C. E., Saito, M. T., Beard, R. R., Kepp, R. M., Clark, R. W., Eddie, B. V.: Serological tests in the diagnosis and prognosis of coccidioidomycosis, American Journal of Hygiene, 52:1, July 1950.

14. Smith, C. E., Whiting, E. G., Baker, E. E., Rosenberger, H. G., Beard, R. R., and Saito, M. T.: The use of coccidioidin, The American Review of Tuberculosis, Vol. LVII, No. 4, April 1948.

Mephenesin as a Relaxing Agent in the Treatment of Tetanus

Clinical Experience in 12 Cases

Harold E. Godman, M.D., *San Diego*

SUMMARY

Maintenance of a patent airway in cases of tetanus is best accomplished by means of tracheotomy performed early in the course of the disease. This eliminates the possibility of upper respiratory obstruction and facilitates the elimination of irritating and obstructing secretions from the lower respiratory passages. In many cases the amount of sedation required is decidedly reduced following tracheotomy.

The combination of phenobarbital and Tolserol® is very satisfactory in controlling the muscular rigidity and spasm in cases of moderately severe tetanus. In severe cases, response is not always satisfactory.

Severe respiratory depression was observed in only one case in which phenobarbital and Tolserol® were used.

SINCE the introduction of tetanus toxoid immunization, tetanus has definitely become a preventable disease. Unfortunately, however, many cases of this disease still occur, and anesthesiologists frequently are consulted in reference to maintenance of the airway, sedation, and muscle relaxation.

MAINTENANCE OF AIRWAYS

In tetanus, both laryngospasm and complete tetanic spasm of the muscles of respiration are present during the acute episode. Therefore, the method for maintenance of the airway must extend beyond the larynx. This may be accomplished either by endotracheal intubation or by tracheotomy. Since the course of the disease extends over a period of from approximately 10 to 21 days, tracheotomy is the method of choice. As the course of the disease may change very abruptly, this procedure should be performed in all cases of tetanus as soon as a definite diagnosis is made. Constant care must be given the tracheotomy, especially in reference to the accumulation of secretions. In all cases in the series here reviewed, tracheotomy was performed early in the course of the disease.

Presented before the Section on Anesthesiology at the 79th Annual Session, San Diego, April 30-May 3, 1950.

SEDATION AND MUSCLE RELAXATION

In the past, various agents such as magnesium sulfate, the barbiturates, chloral hydrate and tribromethanol have been used in the treatment of tetanus. In more recent years muscle-relaxing agents such as various preparations of curare and curare-like drugs have been tried. In 1947 Adriani and Ochsner[1] reported five cases of tetanus in which d-tubocurarine chloride was used. In general the results were unsatisfactory. It was observed that relief from spasm was not obtained until the dose which caused almost complete curarization was given; the response was fleeting, and respiratory depression and obstruction were avoided with difficulty. And although favorable reports have appeared in the literature on the use of curare in oil in tetanus, Godman and Adriani[3] found that results with use of this preparation were not always predictable and that treatment by this method had many of the disadvantages of curare therapy by the multiple-dose method as well as the disadvantage of causing massive overdosage.

Recently the author used a preparation of mephenesin (3-ortho-toloxy-1, 2-propanediol) called Tolserol.® This is a curare-like compound and has previously been used as a relaxing agent in anesthesia and in neuromuscular diseases characterized by muscle spasm or increased muscle tone. It has been reported to give good abdominal relaxation without intercostal paralysis. Davidson[2] suggested that its site of action is in the internuncial neurones and stated that, unlike curare, mephenesin does not appear to interfere with voluntary movement but only with spinal cord reflexes, and therefore, presumably, with muscle tone.

The author used this preparation in the form for oral administration, each tablet containing 250 mg. of the drug. In most cases a stomach tube was in place for feeding purposes and provided an easy, non-irritating route for administration of the drug. Twelve patients with tetanus, ranging in age from 22 months to 68 years, were treated. Each received for sedation phenobarbital in doses ranging from 30 mg. to 130 mg. given once, twice or three times daily. Mephenesin was given in doses ranging from 62.5 mg. to 750 mg. in children and up to 3.5 mg. in adults. This was given as often as every two hours in some cases, but the average interval was

about four hours. The patients had symptoms varying from mild to very severe; in most cases they were moderately severe. Two patients were adults and they did not respond as well as did the children. One child and an elderly adult died. In both of these cases the disease was very severe and was complicated by respiratory infection. One other patient, a child, did not have satisfactory response to treatment with phenobarbital and mephenesin; tribromethanol was given and, after a very stormy course, the patient recovered. In the cases in which response was unsatisfactory, the doses given either were ineffective or produced severe respiratory depression. In the other nine cases the control of muscular rigidity and spasm was satisfactory. No attempt was made to keep these patients completely relaxed at all times. Profound sedation is undesirable because of respiratory depression and the difficulty in keeping the airway free from secretions. Phenobarbital or mephenesin, or both, were given as needed to control restlessness and spasm.

Hematuria and abdominal distention have been reported with the intravenous and intramuscular administration of this drug. In this series, in which the drug was given orally, neither hematuria nor abdominal distention was observed.

1304 Medico-Dental Building.

REFERENCES

1. Adriani, J., and Ochsner, A.: Some observations on the use of curare in the treatment of tetanus, Surgery, 22:509, Sept. 1947.

2. Davidson, M. H. A.: "Myanesin" as a relaxant in children, British Medical Journal, 1:541, March 20, 1948.

3. Godman, H. E., and Adriani, J.: Management of patients with tetanus, J.A.M.A., 141:754-756, Nov. 12, 1949.

Dental Caries

George O. Boucher, M.D., *Long Beach*

SUMMARY

The most generally accepted theory as to the cause of dental caries is that certain bacteria in the mouth, in the presence of fermentable sugars, cause the formation of acids which in turn decalcify teeth. Physicians may help reduce the incidence of caries by recommending elimination of refined sugars from the diet, or at least control of the amount consumed.

Cleaning the teeth with a well designed tooth brush after each meal will to a certain extent mechanically remove the fermentable sugar and debris from the teeth. One step further in oral hygiene that may be beneficial is to use a dentifrice with 5 per cent dibasic ammonium phosphate and 3 per cent urea to reduce the formation of acid.

Anything that will increase salivation will aid in buffering any acids that may be present.

A 2 per cent solution of sodium fluoride applied to the thoroughly dried "intact" enamel surface may prevent caries.

Sodium fluoride added to drinking water to a concentration of 1 part per million is utilized by the body in formation of an enamel that is particularly resistant to caries.

DENTAL caries is a universal disease. It may occur in persons of any age, but according to Poncher and co-workers[16] the activity is highest in children between the ages of five and eight and twelve and eighteen years. Caries control is mainly a problem for dentists and, since dental caries should be repaired as soon as possible, children susceptible to caries who are in the age groups having the highest incidence should have their teeth examined at least twice a year and perhaps more often.

Caries prevention, which is even more important than caries control, is both a medical and a dental problem. Physicians can be of great assistance in this field.

Massler[14] supported the theory that heredity plays a part in dental caries. A genetic factor directly related to caries resistance has been established in laboratory animals. Some people regardless of poor diet and poor dental care may have no caries; some, in spite of excellent diet and excellent dental care, will have caries. However the majority of people are between these two extremes and for them diet and dental care are important.

Presented as part of a Panel Discussion on What's New in Pediatrics before the Section on Pediatrics at the 79th Annual Session of the California Medical Association, April 30-May 3, 1950, San Diego.

DIET

Diet is important to teeth from the formative stage through the life of the teeth; and, as was pointed out by Schour[17] and Davison,[4] all food elements—proteins, fats, carbohydrates, minerals, vitamins, etc.—that are essential for good nutrition are an aid toward having good teeth. The most vital materials neded by teeth, according to Bessey[2] and Gordon,[7] are: (1) minerals—calcium, phosphorus, iron, fluoride and traces of others, and (2) vitamins —A, D, C, and B complex (pantothenic acid, niacin, riboflavin and thiamine). These are especially important during the formative stage of the teeth.

It has often been observed that malnourished and rachitic children have much less dental decay than do well-nourished children. Following the recent war this fact was reemphasized by Massler[14] when children of war-torn areas and young adult prisoners of war were observed to be remarkably free of caries. This was thought to be due to a sharp reduction of sugar intake and to a deficiency in the vitamin B complex. The B complex vitamins are essential to the enzyme systems of acidogenic bacteria, and their absence inhibits the enzyme systems in these bacteria, causing reproductions to cease. However, the vitamins of the B complex are essential to the body for other reasons and therefore they cannot be eliminated from the diet. Carbohydrates are also essential in the diet, but refined sugars are not and can be left out entirely with no ill effect. physiologically.

REFINED SUGARS

All carbohydrates can be left out of the diet entirely for several weeks with no ill effect. Jay[8] claimed that in many cases the flora of the mouth can be changed and the lactobacilli inhibited for as long as two years by eliminating all carbohydrates from the diet for two weeks, then adding starches as the only carbohydrate for the following two weeks. Becks[1] said that refined sugars are not essential to the diet. Moreover, eating them in quantity may cause exclusion of essential dietary substances. But according to Noyes[15] in some cases in which there is an acquired taste for them, deprivation can cause psychological trauma. With practicality in mind, it is probably a good policy to advise, "No refined sugars except as dessert following the evening meal, and then be particularly careful to brush the teeth immediately afterward."

The mechanism of acid formation from fermentable sugars by means of bacterial enzymes has been extensively studied. Fosdick[6] stated that acid is the only substance likely to be in the mouth that is capable of dissolving the inorganic portion of the tooth. Thus anything that will interfere with acid production will decrease the incidence of caries. A variety of organisms are capable of producing acids

that will decalcify teeth and some of these bacteria are always present in the mouth. Lactobacillus acidophilus is only one of these organisms, but there is a direct relationship between the number of lactobacilli and caries activity. Bibby[3] pointed out that the lactobacillus acidophilus index is a useful measure of caries activity. These acid-producing organisms do not produce significant amounts of acid unless fermentable sugars are present. Thus, eliminating refined sugars would not only be beneficial in this respect, but, according to Massler,[13] sugar control is the only effective dietary measure for the control and prevention of caries in children. Since carbohydrate must be present in the diet (Drenckhahn and Taylor[5]), it is desirable to brush the teeth each time after eating, to remove as much of the debris that collects in cracks and crevices as possible.

AMMONIA-UREA COMPOUNDS

Within the last three years another interesting development has occurred in the field of caries prevention. Massler[14] pointed out that in a normal mouth there is apparently somewhat of a balance between the acidogenic bacteria and the group of organisms that produce ammonia. In a caries-susceptible person the acidogenic bacteria overbalance the ammonia-producing organisms. Conversely, in the mouth of a caries-resistant person there is a preponderance of ammonia-producing organisms and a low lactobacillus acidophilus count. It has been claimed that a dentifrice or mouth wash with 5 per cent dibasic ammonium phosphate and 3 per cent urea does two things: It neutralizes acids present and, more important, it changes the oral flora to an ammonia-producing type and at the same time inhibits the growth of lactobacillus acidophilus.

FLUORIDES

The presence of fluorides, like the lack of vitamin B complex, inhibits the enzyme systems of acidogenic bacteria. According to one theory this inhibition accounts for the reduction of dental caries when sodium fluoride is used. The easiest, most efficient, and most economical way to use fluoride is to see that the communial water supply contains one part sodium fluoride to one million parts water. (It should be noted, however, that Kulstad[12] has cautioned that this is still experimental.) When fluoride is present in a fetus, or in a baby or child forming teeth, it becomes incorporated in the enamel of the teeth and renders them less susceptible to caries. After the permanent teeth have formed, which usually means after eight years of age, ingestion of fluoride has no effect. Water containing less than 0.5 parts of fluoride per million parts does not seem to have any demonstrable effect, according to Massler.[14] Fluoride content of one part per million reduces the incidence of caries by 40 to 60 per cent, but a very mild mottling of the enamel in about 10 per cent of the children develops. Dental caries is further reduced if the fluoride content of the water is increased up to 1.5 parts per million, but the incidence and severity of mottling also increase. Fluoride concentration of above 1.5 parts per million results in no further decrease in caries. When the concentration of fluorides rises to 2 parts per million, mottling and even pitting of the enamel occurs in approximately 50 per cent of the children born and reared in areas where such a large amount of fluoride is continually ingested.

Local application of sodium fluoride is capable of reducing the incidence of dental caries by 25 to 40 per cent in recently erupted teeth with intact enamel. According to Massler[14] the accepted method of topical application of sodium fluoride consists of an initial, thorough dental prophylaxis which is followed by a minimum of four treatments within a period of two to three weeks. A 2 per cent solution of sodium fluoride is applied to the thoroughly dried enamel surface and allowed to remain for 4 or 5 minutes until the solution dries. However, it is effective only when applied with careful technique on *intact* enamel; and the effectiveness has only been demonstrated in children. To be most effective, topical application of fluoride should be instituted when the child is between 6 and 12 years of age—the earlier the better. It is likely to be much less effective after the second permanent molars are through the gum (after 15 years). Kesel,[10] as well as others, expressed belief that this method will be useful in preventing dental caries.

When sodium fluoride is applied topically, the enamel absorbs ionized fluoride and becomes more resistant to acid decalcification. Knutson[11] said that, experimentally, fluoride-treated enamel was demonstrated to be harder than untreated enamel; and it was also observed that the hardness increased as the exposure to fluoride solution was increased, up to 20 minutes. The change in hardness extended to a depth of approximately thirty microns.

Fluorides in the form of tablets, lozenges, dentifrices, and mouth washes have very little effect because they are in the form of insoluble calcium fluoride to comply with the Pure Food and Drug Act which excludes toxic preparations. They do not provide ionic fluoride in the mouth to inhibit bacterial action, and as insoluble fluoride is not absorbed by the intestinal tract, there is no systemic effect. Fluorides added to milk have no effect because insoluble calcium fluoride is formed.

Poor oral hygiene and improper diet are doubtless contributory to the high rate of caries in children in the five- to eight-year age group. But why the increased rate in the 12 to 18-year age group? Johnston[9] in his metabolic studies at Henry Ford Hospital in Detroit probably has given one answer to this question. Because of the spurt of growth before, during, and after puberty, youngsters in this age group have an unusually high demand for the materials used in growing. Consequently, many adolescents are found to be deficient in certain things essential to nutrition, especially nitrogen, calcium, vitamin A, vitamin D and, undoubtedly, others. Some of these nutritional needs, plus, per-

haps, greater consumption of refined sugars at this age, may help account for the increased incidence of caries.

The buffering action of saliva has an effect on caries. It has been shown experimentally in animals that if the salivary glands are tied off, the teeth deteriorate rapidly. The practical application of this is that anything that stimulates the flow of saliva would tend to lessen caries; conversely, anything that reduces the amount of saliva would promote caries formation.

830 Atlantic Avenue.

REFERENCES

1. Becks, J.: Reduction of refined carbohydrates, Current Advances in Dentistry, Nov. 1949.

2. Bessey, O. A.: The nature of nutrition, Current Advances in Dentistry, Nov. 1949.

3. Bibby, B. G.: Bacteriological aspects of caries, Current Advances in Dentistry, Nov. 1949.

4. Davison, W. C.: The Compleat Pediatrician, Durham, N. C., Duke University Press, 1949, Sixth Ed., Sec. 237.

5. Drenckhahn, V. V., Taylor, C. R.: Your Child's Teeth, Fourth Ed.

6. Fosdick, L. S.: Biochemical aspect of caries, Current Advances in Dentistry, Nov. 1949.

7. Gordon, E. S.: Significance of nutritional deficiencies, Current Advances in Dentistry, Nov. 1949.

8. Jay, P.: Dietary aspects of caries, Current Advances in Dentistry, Nov. 1949.

9. Johnston, J. A.: Mitchell & Nelson, Textbook of Pediatrics, Philadelphia and London, W. B. Saunders, Fourth Ed., 1946.

10. Kesel, R. G.: Recent developments in caries control, Current Advances in Dentistry, Nov. 1949.

11. Kulstad, J. M.: Journal Southern Calif. Dental Association, Feb. 1950.

12. Knutson, W.: Fluorine and caries, Current Advances in Dentistry, Nov. 1949.

13. Massler, M.: Nutrition in dental practice, Current Advances in Dentistry, Nov. 1949.

14. Massler, M.: Present status of caries control and caries prevention, Medical Clinics of North America, Jan. 1950.

15. Noyes, J. J.: Brenneman Practice of Pediatrics, Vol. III, Ch. 3.

16. Poncher, J. G., Schour, I. D., Massler, M.: Mitchell and Nelson, Textbook of Pediatrics, Philadelphia and London, W. B. Saunders, Fourth Ed., 1946.

17. Schour, I.: Nutrition in dentistry, Current Advances in Dentistry, Nov. 1949.

Children's Dental Health Week

In connection with Children's Dental Health Week, February 5 to 12, the California State Dental Association issued the following information and recommendations:

VITAL NEED FOR INTENSIVE DENTAL HEALTH EDUCATION

1. Among two-year-olds, 50 per cent have one or more decayed teeth.
2. On the average, children beginning school have six teeth already in the process of decay.
3. Dental studies show that 75 per cent, or more than 21 million of the nation's school-age children need dental care.
4. The 15-year-old has an average of seven missing, filled or decayed teeth.
5. Decay is occurring at a much greater rate than American dentists can repair it.
6. Prevention—through *dental health education* and *proper home care* is *still* the only answer.

MESSAGE TO PARENTS

1. See that your children observe the dental health rules.
2. Have your dentist apply the fluoride treatment, as it is effective (on children under 15 years) in reducing future dental decay. Applications should be made at around three years. Further treatment should be made around seven, ten and thirteen years. Application is painless.
3. Have your children make use of ammoniated dentifrice. Tests tend to indicate, under certain circumstances, that 5 per cent ammonium phosphate and 3 per cent urea may reduce dental decay.
4. Check your children's teeth-brushing. Paint their teeth with a small amount of 2 per cent mercurochrome. After rinsing the mouth with water, the mercurochrome will stain the film on the teeth. Have them brush the teeth until all stain is removed. Try it yourself—you, too, will miss film!
5. Set the example yourself by proper brushing and care of your teeth. You, too, will profit along with your young ones.
6. Lastly, support your local dental society when it advocates the fluoridication of your local water supply. Tests have proven that when the chemical fluorine is added to our natural water supply, tooth decay in children using the water from birth to eight years is reduced by some 60 per cent.

CASE REPORTS

◀ The Surgical Management of Ruptured Omphalocele

◀ Renal Actinomycosis

The Surgical Management of Ruptured Omphalocele

L. Parry Douglass, M.D., and Glenn F. Cushman, M.D.
San Francisco

OMPHALOCELE is congenital herniation of abdominal viscera through a deficiency in the rectus fascia. As it occurs at the base of the umbilical cord, the extrusion is covered by an exceedingly thin, translucent membrane composed of amnion and the underlying peritoneum.[3]

The contents of the sac, clearly visible through its wall, vary in proportion to the size of the fascial defect. Small intestine is almost always present, and not infrequently portions of the liver, stomach and colon. In extreme cases the hernia contains all the contents of the abdominal cavity. The integrity of the membrane is limited by lack of vascularity, and rupture is inevitable, although it may not occur for several days after birth.

The feasibility of surgical repair of omphalocele is now widely accepted, and there is conclusive evidence that the number of patients promptly referred for operation has risen sharply in recent years.[1, 4, 9, 10] As a result of increasing experience, cases formerly considered inoperable are being successfully treated, and at the same time the mortality rate has steadily declined.

Unfortunately, this encouraging trend does not apply to cases in which rupture of the sac has occurred. In a review of the literature, reports of only 15 cases in which operation was successful were found; six of the 15 cases were reported before 1900.[1, 6, 8, 10, 11, 13, 15] The average length of time between birth and operation was less than four hours.

Generalized fatal peritonitis develops rapidly in all untreated cases and is also the major cause of postoperative death in both ruptured and unruptured omphalocele. O'Leary and Clymer[14] in a review of 91 cases noted that the mortality rate rose from 21.4 per cent in cases in which operation was done within the first 12 hours, to 44.4 per cent for the group in which operation was carried out in the period between 12 and 24 hours, and to 61.6 per cent in cases in which operation was done more than 24 hours after delivery. Although the newborn is usually considered to be free of infection at the termination of a normal delivery, the degree of sterility is relative, not absolute—an important distinction that is seldom appreciated. It is, therefore, quite evident that the intact sac acts as a temporary barrier against infection. Moreover, it maintains the natural resistance of the peritoneum by protecting it from exposure and trauma. These two transient virtues of the membrane make possible the relative success of present treatment in unruptured omphalocele.

However, when rupture is present at birth, or if it occurs in the delivery room, this advantage is missing. Exposure and peritoneal infection are concomitant and immediate. It is obvious that treatment of these conditions is as mandatory as repair of the congenital defect.

The purpose of this paper is to present an outline of procedure in ruptured omphalocele which fulfills these requirements and to report a case which is believed to be the first recorded of cure in a premature infant and the second in which an associated intra-abdominal anomaly was also corrected.

Since ruptured omphalocele is an emergency of the first magnitude, institution of treatment must be immediate and must be pursued with the least possible delay until completed. The importance of continuity of rigid sterile technique from birth to end of operation cannot be overemphasized. Exposure of peritoneum in the delivery room instead of in the surgery is no excuse for contamination by unsterile material or personnel. Protection of the viscera from subnormal temperature and drying can be provided by use of moist warm saline compresses. The impulse to attempt reduction of the evisceration should be resisted, since taxis is seldom successful and causes severe trauma to the peritoneum.

A complication peculiar to small fascial defects is strangulation of the bowel produced by the expulsive action of lusty crying. If the intestine becomes cyanotic, the fascial orifice must be immediately extended—even though this permit further eventration. Finally, continuous administration of oxygen in a heated incubator is of distinct value while preparations are being made for operation.

These measures will minimize the hazards incident to rupture but they cannot be permitted to encourage procrastination. The only definitive treatment is surgical repair. There is no period of latency or incubation in peritonitis that may be relied on as a margin of safety, and unwarranted delay will defeat the most meticulous preoperative care.

General anesthesia is preferable to local infiltration. The risk involved is more than offset by less traumatic operation and decrease in operating time due to better exposure and relaxation. Before the bowel is replaced, there should be a careful inspection of the abdomen and intestinal tract. Concomitant anomalies are not infrequently encountered, and those incompatible with life, such as atresias and obstructions due to congenital bands, malrotation of the colon or imperforate anus, must obviously be corrected. Operation should not be prolonged, however, by unnecessary procedures such as correction of Meckel's diverticulum or appendectomy.

The repair of small defects is easily accomplished by approximating the peritoneum and posterior fascial sheath in the first layer, followed by anterior sheath, subcutaneous fat and the skin in the second layer. In dealing with larger

From the Department of Surgery, St. Joseph's Hospital.

Presented before the Section on General Surgery at the 79th Annual Session of the California Medical Association, April 30-May 3, 1950, San Diego.

defects it should always be remembered that closure with more than minimal tension may produce respiratory failure due to embarrassment of movement of the diaphragm, or circulatory failure secondary to pressure on the inferior vena cava. It is better to be content with closure of the subcutaneous fat and skin alone than to run the risk of these serious and usually fatal complications. And in the event that even this cannot be accomplished safely, dissection of the subcutaneous fat and skin must be carried as far laterally, superiorly and inferiorly as may be necessary to encompass the viscera without tension.[5] In such cases the risk of postoperative mechanical obstruction due to adhesions or necrosis of skin flaps without sufficient blood supply must be faced with the realization that they are complications inherent in a desperate situation.

If it has been impossible to close the fascial defect, there will remain a residual ventral hernia, often of immense size. Although grotesque in appearance and a source of concern to the parents, it does not interfere with the normal development of the infant. As time goes on, the abdominal cavity will increase in size and ultimately permit the viscera to occupy their normal confines. This may take many months, but secondary repair should be delayed until it has occurred and the surgeon is satisfied that he can successfully approximate the fascia.

CASE REPORT

A male infant weighing 4 pounds and 3 ounces was delivered two months before term with low forceps after a six-hour labor. The small intestine lay outside the abdominal cavity, having escaped through a defect approximately 1½ centimeters in diameter at the base of the superior aspect of the cord. The remnants of the ruptured sac could be identified at the skin edges.

Respiration was spontaneous and the baby was soon crying vigorously. It was then noted that the exposed segment of intestine was becoming quite cyanotic. An incision was immediately made through the full thickness of the abdominal wall, enlarging the defect by another 3 centimeters, which permitted the remainder of the small bowel, part of the stomach, the transverse colon and the cecum to eventrate. The viscera were covered with warm, moist normal saline compresses and the color of the segment which had been strangulated promptly returned to normal. The baby was then wrapped in warm sterile blankets and placed in a heated oxygen incubator while preparations were made for operation.

Approximately one hour after birth, operation was started under nitrous oxide ether inhalation anesthesia administered through an endotracheal tube with non-rebreathing valve. Constricted beneath a broad band near the base of the mesentery was a loop of small intestine in the shape of a three-leaf clover, with the central loop the longest of the three. Since neither patency nor continuity could be demonstrated beneath this band, it was tediously dissected free, which relieved the obstruction. The bowel was inadvertently opened during this procedure and immediately closed with an atraumatic chromic mattress suture, reinforced with a serosal stitch. Exploration revealed no further abnormalities. The abdomen was closed with two layers of interrupted fine cotton without causing undue tension.

The patient was returned to the oxygen incubator in good condition and given 50 cc. of 5 per cent glucose in Ringer's solution by clysis. Parenteral feeding, including blood transfusions, was continued along with oral feeding for the next two days, during which time the patient regurgitated frequently. Bowel movements occurred daily from the time of operation. By the fourth postoperative day most of the formula by mouth was being retained. A staphylococcic wound infection developed on the seventh day; it promptly cleared when sutures were removed. The body weight reached a low of 3 pounds 13 ounces on the third day; then followed an uninterrupted gain to 4 pounds and 11 ounces on the 14th day.

At that time severe infectious diarrhea developed, and during the week required to bring it under control the body weight declined to within 1 ounce of the weight at birth. The patient was discharged on the 37th postoperative day, asymptomatic and eating well, with body weight 5 pounds 11 ounces. At eight months of age, the patient was healthy and energetic and without weakness of the abdominal wall. The body weight at that time was 20 pounds.

The incidence of omphalocele, intact or ruptured, occurring alone or with other anomalies, in stillborn or live births, operable or inoperable, is at present impossible to determine accurately for several reasons. Not the least of these is the confused nomenclature. The condition has been recorded as exomphalos, funicular hernia, amniocele, congenital eventration and even as umbilical hernia. Therefore, it seems quite obvious that the vital statistics of public record must conceal many cases under even other diagnoses, especially if death ensued. The confusion of multiple names for this condition should be corrected by the universal adoption of the term omphalocele, as suggested by Ladd and Gross.[9]

It is indeed a rare anomaly and only some 400 cases have been reported to date in the world literature.[2] In large teaching clinics, where reasonable accuracy may be expected, the rate has been estimated to be from one in 4,000 to one in 11,000 births.[2, 7, 12, 16]

On the basis of these statistics, there would be approximately 40 cases a year in California alone—and it must be assumed that the vast majority of the patients die.

The number that might be saved will be determined only when obstetricians and surgeons are aware of the possibility of cure through proper preoperative care and prompt surgical intervention.

SUMMARY

Ruptured omphalocele is an urgent surgical emergency requiring continuous sterile technique and careful protection of the exposed bowel from birth until end of operation.

Concomitant anomalies incompatible with life must be recognized and corrected at time of operation.

The abdominal contents must be covered without excessive tension, even though a residual ventral hernia remains to be corrected at a secondary operation.

The successful treatment of a case complicated by prematurity and concomitant bowel obstruction due to congenital band is reported.

450 Sutter Street.

REFERENCES

1. Benson, D. D., Penberthy, G. C., and Hill, E. S.: Hernia into the umbilical cord and omphalocele (amniocele) in the new born, Arch. Surgery, 58:833-847, June 1949.

2. East, John Alan: Exomphalos, Jour. Internat. Coll. Surgeons, 9:426-431, July-August 1946.

3. Ferguson, J. A.: Omphalocele, persistent omphalomesenteric duct and Meckel's diverticulum, Univ. Hosp. Bull., Ann Arbor, Mich., 14:47, June 1948.

4. Gross, R. E., and Blodgett, J. B.: Omphalocele (umbilical eventration in the newly born), S. G. and O., 71:520, Oct. 1940.

5. Gross, R. E.: New method for surgical treatment of large omphalocele, Surgery, 24:277-292, August 1948.

6. Hollenberg, Henry G.: Amniotic hernia, Surgery, 23:363-368, March 1948.

7. Jarcho, J. S.: Congenital umbilical hernia, S. G. and O., 65:593-600, Nov. 1937.

8. Korshet, Maurice: Hernia into the umbilical cord, Calif. and Western Med., 51:392-393, Dec. 1939.

9. Ladd, W. E., and Gross, R. F.: Surgery in Infancy and Childhood, Phil., W. B. Saunders and Co., 1941.

10. Maguire, Charles Hugh: Surgical management of omphalocele, Arch. Surgery, 59:484-490, Sept. 1949.

11. Massabuau, G., and Guibal, A.: L'Evisceration ombilicale congenitale, Arch. de Mol. de L'app. digestif., 23:129, Feb. 1933.

12. Marguilies, L.: Omphalocele (Amniocele), Am. J. Obst. and Gynec., 49:695, May 1945.

13. Nilsson, Harry M., and Fandrich, J. S.: Congenital umbilical hernia with eventration, Mich. State Med. Soc. Jour., 40:111-113, Feb. 1941.

14. O'Leary, Charles M., and Clymer, Cyril E.: Umbilical hernia, Am. Journ. Surgery, 52:38-53, April 1941.

15. Reed, Edward H.: Infant disemboweled at birth, J.A.M.A., 61:199, 1913.

16. Specht, Norman W., and Shyrock, E. Harold: Omphalocele, anatomical and clinical considerations, S. G. and O., 77:319-325, Sept. 1943.

Renal Actinomycosis

With Report of a Primary Case

James M. Whisenand, M.D., and E. Vincent Moore, M.D.,
San Diego

PRIMARY or solitary renal actinomycosis is a rare disease. Since Israel first reported a case in 1878[8] 31 others have been recorded. Only 15 of the reported cases appear to have been truly limited to the kidney. An additional case is reported here because of the rarity of the lesion and to emphasize that recent advances in therapy demand specific identification of the actinomycete if cure is to be obtained.

ETIOLOGY

The cause of this disease is a saprophytic, facultative, anaerobic fungus. The colonies appear in the pus from lesions or are imbedded in granulation tissue and appear as irregular, yellow granules from 0.5 to 2 mm. in diameter. These are the so-called "sulfur granules." They may be soft and easily crushed or hard and calcareous. As observed microscopically, these granules have a central mass of debris, pus cells and degenerated fibers. Toward the margin is a dense network of interlacing, branched filaments. At the periphery are isolated, radiating filaments terminating in clubbed ends. The mycelial filaments are Gram-positive.

According to the classification of Weed and Bagenstoss[11] the human pathogen is called Actinomyces israeli. A. bovis is the anaerobic organism producing lumpy jaw in cattle. Nocardia is the name given the aerobic form of actinomycetes once thought to cause all cases in man and now incriminated in only 10 per cent of cases.[2, 4]

It was formerly thought that actinomycosis was contracted through ingestion or inhalation of contaminated straw, grains, or grasses, and this erroneous conception still is to be found in some present-day texthooks. It has been proved that A. israeli lives as a harmless saprophyte in the mouths, tonsils, and intestinal tracts of normal human subjects. Davis[4] stated that Naeslund cultured pure colonies of the organism from the mouths of healthy persons. These colonies, on injection, produced the disease in guinea pigs. Two cases have been reported in which actinomycosis followed human bites by persons without evidence of the disease (Cope in England and McWilliams in the United States, according to Davis).[4]

The oral cavity is the most likely portal of entry for the organism since the most common site of the disease is about the head and neck. Swallowed organisms may lodge in the cecum or appendix. Seven cases of renal actinomycosis following appendectomy have been reported. Gardiner[6] reported that 8 per cent of removed appendices contained colonies of actinomycetes.

Edwards[5] reported that Henrici was able only rarely to infect experimental animals with single injections of A. bovis. Repeated inoculations were required, suggesting that repeated exposure leading to sensitization was an etiologic factor.

Infection with other organisms may play a role in the initiation of the disease process, or in extension of it once it is present. Repeated sore throats or diseased tonsils have been noted in some patients prior to onset. Pneumonia or trauma to the chest have preceded pulmonary lesions in other instances.

PATHOLOGY

The term primary renal actinomycosis is used here in the same sense that renal tuberculosis is termed primary. That is, it must be assumed that an earlier lesion existed somewhere in the body from which the kidney became infected. The patient probably was symptomless at the time of this early lesion and demonstrable residual traces are absent. That it must have existed, however, is indicated by the presence of the disease in the kidney.

The characteristic lesions are chronic abscesses as a result of progressive penetration and destruction of tissue. Tissue reacts to the invading parasite by the formation of nodules of granulation tissue rich in vessels and cells. The centers of these nodules then break down by a process of lipoid degeneration and become filled with leukocytes, debris, and sulfur granules. In the wall of granulation tissue about the abscesses are many mononuclear and occasional giant cells. As the lesion ages, pronounced formation of connective tissue replaces most of the granulation tissue. Thus the lesion of actinomycosis is a chronic, suppurating granuloma. The lesions vary in size from that of a pinhead to that of a grapefruit.

Extension from the primary site is usually by direct spread to tissue and along fascial planes. The lymphatic system is almost immune and the lymph nodes do not react and enlarge. The skin is involved late in the process, as it offers great resistance. Muscles and nerves may be invaded or pushed aside. Bones may be superficially involved by direct continuity. Rarely, hematogenous spread occurs and then any organ may be involved. Primary renal actinomycosis is initiated in this manner. Secondary renal lesions occur when the kidney is involved contiguously.

Grossly, a variety of pathologic changes may be observed in the infected kidney. When the lesion is minimal, only one small area is affected. On cut surface of the kidney a pyramidal area of granulation and scar tissue may be observed, the apex pointing toward the renal pelvis in the region of a renal papilla indicating the hematogenous origin of the infection. Within this may be seen yellowish streaks or granules, and abscess cavities of varying size which may also contain the yellow sulfur granules. The granuloma may extend through the capsule to invade the perinephric fat. Frequently a perirenal abscess is produced. When involvement is more diffuse, the entire kidney may be converted into a suppurating, granulomatous mass. Subsequently, multiple sinus tracts discharge to the skin. If the involvement begins in the lower pole and spreads to include and obstruct the

From the Department of Urology, San Diego County General Hospital.

Presented before the Section on Urology at the 79th Annual Session of the California Medical Association, April 30-May 3, 1950, San Diego.

ureter, hydronephrosis will appear. Calculus formation and pyonephrosis are logical sequelae. Such calculi may be composed of a fossilized mass of actinomycetes, as in Israel's case, in which, presumably, a parasitic colony served as the nucleus for the deposition of urinary salts.

Unlike renal tuberculosis, in which predilection for involvement of the ureter and the bladder is so common, in actinomycosis apparently the infected urine may be discharged from an actinomycotic kidney for weeks or even months without producing any pathologic changes in the urinary passages below.[6]

DIAGNOSIS

In a review of 33 cases—16 in which renal actinomycosis was solitary (demonstrable only in the kidney) and 17 in which it was confined mainly to the kidney—it was noted that the commonest symptoms and signs reported resembled those of renal tuberculosis, pyogenic infection or tumor. The symptoms and signs in the order of frequency are listed in Table 1.

The disease was correctly diagnosed in eight cases before operation or autopsy. The organisms were found in the urine in five cases, in pus from draining sinuses in two, and in both urine and pus in one case.

Renal tumor was diagnosed in nine cases, renal tuberculosis in five, and renal infection in six. Ureteral calculus was the preliminary diagnosis and finding in three cases. Perinephric abscess was the primary diagnosis in two cases and was an associated development in nine others. Spontaneously draining sinuses were noted in one patient. Sinuses occurred after incision and drainage of a perinephric abscess or exploration in eight cases, and after nephrectomy in seven.

Cystoscopy may demonstrate nothing abnormal or only the changes of inflammation. Gardiner[6] observed sulfur granules on the vesical mucosa about the ureteral orifices in one case.

Pyelograms may disclose the typical deformity of a renal tumor, the moth-eaten ulceration of tuberculosis, the changes of chronic infection, or the signs associated with perinephric abscess. Ureteral involvement may also simulate the irregular moth-eaten appearance of tuberculosis. Gardiner reported shortening of the ureter with obliteration of its pelvic curve.

TREATMENT

Treatment of actinomycosis when confined to the kidney has been much more satisfactory than treatment of abdominal actinomycosis. Comprising only 20 per cent of all cases, abdominal actinomycosis has accounted for over 50 per cent of the deaths. In Davis' series all patients died within 14 months.[4]

Nephrectomy was done in 22 of the 33 cases reviewed by the author. Six of the patients died within one year and the others recovered. Reports of progress, however, were far from complete. Of the 16 patients with solitary renal actinomycosis, 13 were treated by nephrectomy and two died.

Experience with the sulfonamides and the antibiotics has brought some encouraging results, but these methods of therapy are specific and demand specific and accurate diagnosis.[1, 2, 3, 11, 12] Actinomyces israeli and A. bovis respond to penicillin but not to sulfonamides. The reverse is true of the aerobic form, Nocardia asteroides, which causes 10 per cent of the infections in man. Treatment with sulfonamides and penicillin is not to be undertaken lightly in this disease because of the large amounts sometimes required. In one case of abdominal actinomycosis recently reported, 30 to 40 million units of penicillin was given daily for eight days, 11 to 14 million units daily for 26 days, and 800,000 units daily for 29 days. Cure was achieved after an illness of 16 months in which treatment consisted in the usual doses of penicillin.[10] In a case reported by Glover[7] in 1948 a patient with a pulmonary infection with the Nocardia organism received 1,268 gm. of sulfadiazine in a five-month period.

Table 1.—*Incidence of Signs and Symptoms of Renal Actinomycosis as Reported in 33 Cases in the Literature*

	Number of Times Reported
Specific Symptoms:	
Pain in the flank	22
Mass in the flank or abdomen	14
Chills and fever	14
Irritative vesical symptoms	11
Draining sinuses	10
Hematuria	8
Pyuria	4
General Symptoms:	
Malaise	14
Loss of weight	13
Low grade fever	10
Anemia	9

Streptomycin does not appear to offer much promise in the therapy of actinomycosis. Resistant strains develop quickly.[3] Reports of treatment with aureomycin or chloromycetin have not reached the literature yet.

Weed and Bagenstoss[12] recently emphasized some of the problems in making an accurate diagnosis. They stated that it is frequently impossible to make an etiologic diagnosis from histologic study alone as has been done in the majority of the reported cases. A wide variety of other organisms not sensitive to the sulfonamides or to penicillin may produce granules resembling those of actinomycosis. To differentiate them, a Gram stain of the section of tissue must be done and the filaments typical of actinomycosis demonstrated. Even after these filaments are found, the anaerobic (A. israeli) and the aerobic (N. asteroides) forms remain to be differentiated. However, most of the aerobic forms are acid-fast and identification thus can be made by use of the Ziehl-Nielsen stain. Accurate diagnosis and choice of specific therapy depend upon accurate bacteriologic study.

The fundamental surgical principles of adequate drainage and excision of devitalized tissue should be followed. No amount of chemotherapy will avail if these are ignored.

Iodides, methenamine, x-ray and radium and diverse vaccines[9] have all been used in the past without much success.

REPORT OF A CASE

A 77-year-old white woman was admitted to the San Diego County General Hospital June 18, 1949, complaining of inability to urinate for two days and irritative symptoms, referable to the bladder, of increasing severity for several weeks. The patient was confused, irrational, and obviously critically ill. The patient had been under the care of two different urologists during the previous two years and had been treated for chronic, recurrently acute urinary infection.

The patient had been well until two and a half years before admission when she began to have increasingly severe irritative and obstructive vesical symptoms. A complete urologic survey two years prior to admission had disclosed a prominent cystocele, a bar type of obstruction at the vesical neck, acute cystitis, acute right pyelonephritis, a calculus 5 mm. in diameter in the low major calyx of the right kidney, and grade I, right-sided, congenital hydronephrosis with slight caliectasis. The left kidney was essentially normal (Figure 1, *left*). The vesical urine contained many pus cells and Gram-negative bacilli. Additional findings were auricular fibrillation and electrocardiographic evidence of chronic coronary insufficiency. There was slight residual evidence of a recent, mild cerebrovascular accident. Perineorrhaphy was done shortly thereafter.

The symptoms and infection of the urinary tract persisted, leading to another urologic survey several months later. New findings at that time included severe ulcerative cystitis and a patulous right ureteral orifice. Retrograde pyelograms showed "nephroptosis on the right with chronic caliectasis, pyelectasis, and hydro-ureter. The upper one-third of the right ureter was displaced to the midline." No pronounced changes were noted in the left kidney (Figure 1, *right*). Cultures of the vesical and renal urine produced E. coli. Numerous courses of sulfonamides, penicillin, and one of streptomycin were administered, and while all controlled the acute exacerbations of the infection, they did not eliminate the pyuria.

This conservative therapy resulted in some amelioration of the irritative symptoms referable to the bladder, but the patient went into a slowly progressive decline and was referred to the San Diego County Hospital. On admission, an ovoid, smooth, firm, movable, non-tender mass, 10 by 15 cm., was palpable in the region of the right kidney. The blood pressure was 150 mm. of mercury systolic and 90 diastolic. The temperature was 100° F. On catheterization of the bladder 75 cc. of purulent urine was obtained. Thereafter urinary output varied from one to two liters daily. The urine contained many pus cells and Gram-negative bacilli. Erythrocytes numbered 3,220,000 per cu. mm. of blood, and hemoglobin value was 58 per cent. Leukocytes numbered 17,950 with 89 per cent polymorphonuclear leukocytes and 10 per cent lymphocytes. The urea nitrogen content of the blood was 12.3 mg. per 100 cc.

Generalized acute cystitis, trigonal hypertrophy and inflamed, edematous ureteral orifices were noted in cystoscopic examination. The vesical urine contained 10 to 12 pus cells per high power field, and Gram-negative rods and Gram-positive diplococci. In urine from the kidneys there was

Figure 2.—Retrograde pyelogram at time of admission of patient to hospital, illustrating expanding lesion of the lower pole of the right kidney displacing the pelvis and upper part of the ureter medially and compressing and distorting the lower calyces.

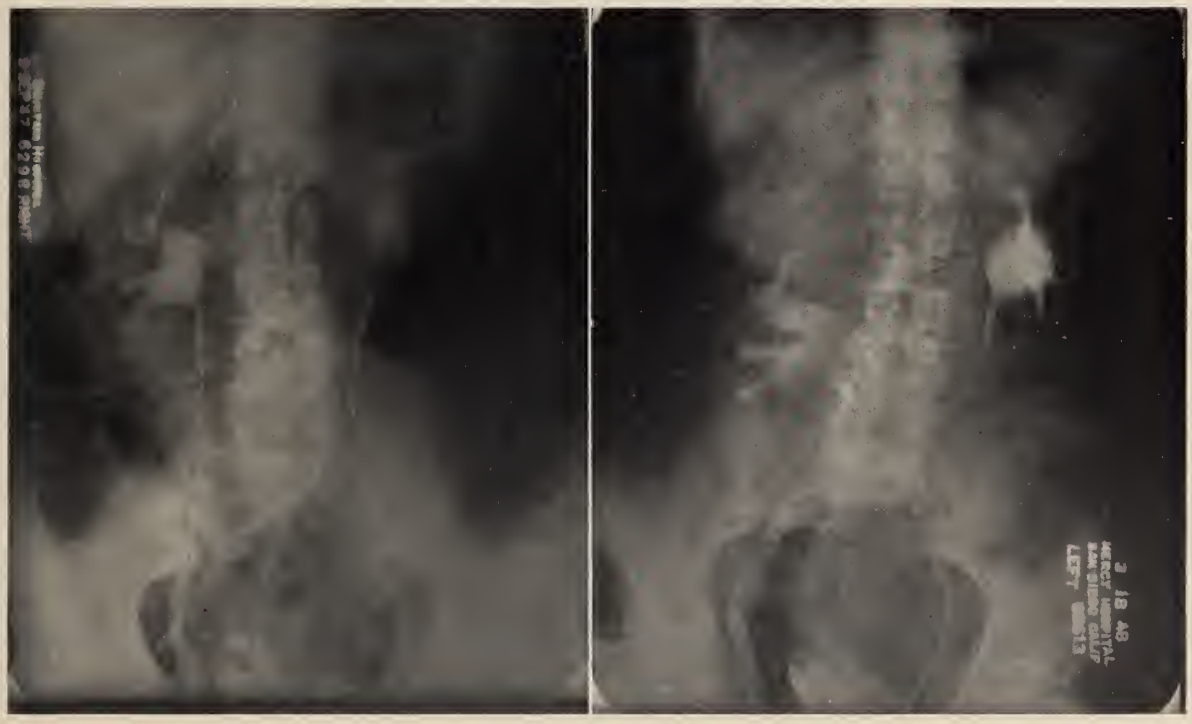


Figure 1.—*(Left):* Retrograde pyelogram two years before admission of patient to hospital, illustrating grade I, right-sided, congenital type hydronephrosis with slight caliectasis. A calculus 5 mm. in diameter was noted in the right lower major calyx on plain films. *(Right):* Retrograde pyelogram one year before admission, illustrating increase in the right-sided hydronephrosis and displacement medially of the upper part of the ureter on the right side. Grade I nephroptosis also has appeared.

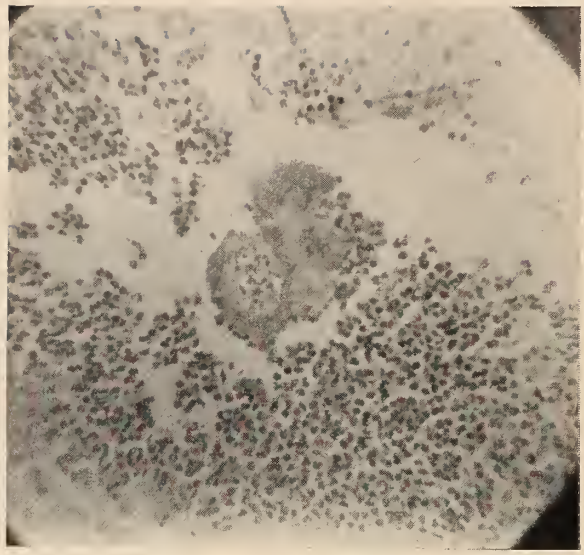


Figure 3.—Photomicrograph of an actinomycotic colony in one of the small abscesses in the granulomatous tumor of the right kidney.

an occasional pus cell but no bacteria. The excretion of phenolphthalein was normal on the left side but decreased on the right, the dye not appearing for eight minutes and only 2.5 per cent being obtained in ten minutes. Retrograde pyelograms showed no change from previous films on the left side. On the right side, an expanding lesion of the lower pole of the kidney displacing the pelvis and upper ureter medially and compressing and distorting the lower calyces, was observed (Figure 2). The diagnosis was tumor of the right kidney. However, operative intervention was not proposed in view of the obvious terminal condition of the patient.

Despite penicillin and sulfadiazine, a "septic" temperature curve persisted, although the pyuria cleared. The hospital course was progressively downhill and the patient died 12 days after admission.

At autopsy a granulomatous tumor was found to occupy the lower pole of the right kidney, most of which had been destroyed. The granulomatous process involved the perinephric fat adjacent to it. No large collection of pus was found. The pelvis and calyces were not invaded. Grossly the lesion resembled actinomycosis and this diagnosis was substantiated by histologic study (Figure 3). No other actinomycotic foci were found.

SUMMARY

Reported in this presentation is a case of primary renal actinomycosis simulating tumor. It is believed to be the sixteenth case of record in which the disease was confined to the kidney.

Since specific chemotherapy (combined with surgical treatment) recently has given encouraging results in the management of actinomycosis, accurate and specific diagnosis is essential, first to establish the presence of actinomyces, and then to determine the particular strain of the fungus so that the most effective sulfonamide or antibiotic agent may be selected. This may be accomplished through adequate bacteriologic studies.

3415 Sixth Avenue.

REFERENCES

1. Abrahams, I., and Miller, J. K.: In vitro action of sulfonamides and penicillin on Actinomyces, J. Bact., 51:145-148, Feb. 1946.

2. Benbow, E. P., Smith, D. T., and Grimson, K. S.: Sulfonamide therapy in actinomycosis, Am. Rev. Tuberc., 49:395-407, May 1944.

3. Boand, A., and Novak, M.: Sensitivity changes of Actinomyces bovis to penicillin and streptomycin, J. Bact., 57:501-508, May 1949.

4. Davis, M. I. J.: Analysis of 46 cases of actinomycosis with special reference to its etiology, Am. J. Surg., 52:447-453, June 1941.

5. Edwards, A. C.: The mycoses, *in* Brennemann's Practice of Pediatrics, volume II, chapter XIV.

6. Gardiner, S. S.: Actinomycosis of the urinary system, Australian & New Zealand J. Surg., 12:207-226, Jan. 1943; 12:261-284, April 1943.

7. Glover, R. P., Herrell, W. E., Heilman, F. R., and Pfuetze, K. H.: Nocardiosis, J.A.M.A., 136:172-175, Jan. 17, 1948.

8. Israel, J.: Quoted by Gardiner.[6]

9. Lentze: Zur Vaccine-Therapie der Aktinomykose, Arch. F. klin. Chir., 196:662, 1939.

10. Stanford, G. E., and Barnes, R. O.: Massive penicillin therapy of abdominal actinomycosis, Surgery, 25:711-723, May 1949.

11. Weed, L. A., and Bagenstoss, A. H.: Actinomycosis. A pathologic and bacteriologic study of 21 fatal cases, Am. J. Clin. Path., 19:201-216, March 1949.

12. Weed, L. A., and Bagenstoss, A. H.: Some problems in the diagnosis of actinomycosis, Proc. Staff Meet., Mayo Clin., 24:463-472, Aug. 31, 1949.

California MEDICINE

OWNED AND PUBLISHED BY THE CALIFORNIA MEDICAL ASSOCIATION
450 SUTTER, SAN FRANCISCO 8 PHONE DOUGLAS 2-0062

Editor, DWIGHT L. WILBUR, M.D. *Assistant to the Editor,* ROBERT F. EDWARDS

Editorial Executive Committee

ALBERT J. SCHOLL, M.D., Los Angeles H. J. TEMPLETON, M.D., Oakland

EDGAR WAYBURN, M.D., San Francisco

For Information on Preparation of Manuscript, See Advertising Page 2

EDITORIALS

No Bargain

"Any way you look at it, socialized medicine is no bargain and the carpenters want none of it." With those words Mr. William L. Hutcheson, general president of the United Brotherhood of Carpenters and Joiners of America, gave the assembled delegates of the American Medical Association the views of one large and important segment of American labor on the issue of compulsory health insurance. His remarks were made at the December meeting of the American Medical Association in Cleveland and were greeted with loud and prolonged applause by the audience of about five hundred.

To appreciate the magnitude of Mr. Hutcheson's remarks one must recognize his position in American labor circles. First, he is general president of one of the largest and oldest craft unions in the country. With a membership of more than 700,000, the Carpenters and Joiners occupy one of the top brackets in the labor movement. Next, consider that this union is the leader among all construction trades unions in establishing contracts for wages, working conditions and other employment factors; its regular contracts with employers expire earlier in the year than those of the other construction unions and its renewals regularly serve as a pattern for the entire industry.

As to Mr. Hutcheson himself, let it be remembered that he has consistently maintained a top place in union leader circles, both within and without the labor movement. He has often been called into White House conferences on labor matters, even at times when Messrs. Green, Lewis and Murray were in public disfavor. Known as a sound labor leader with a keen appreciation of labor's responsibilities to the public, Mr. Hutcheson has earned for himself an enviable reputation as an able administrator, a sound analyst of public and economic conditions and a student of legislative and political trends. On top of that, he is noted as a rugged individualist who speaks his mind to any listener, regardless of rank or position. Small wonder that he has been elected to one of the top vice-presidencies of the American Federation of Labor.

Mr. Hutcheson started out his address to the A.M.A. with the flat statement: "I am against socialized medicine." He immediately followed with the fact that his union is likewise opposed to it and pointed to the fact that at the union's annual meeting a few months ago the delegates had voted down a resolution to support "the national health program."

From that start Mr. Hutcheson discussed such items as cost, distribution of medical service and regimentation under government control. Describing carpenters as an independent lot, he stated that "the first bureaucrat who told a carpenter that he had to work in Little Rock when he wanted to work in Lancaster would be gumming his food for lack of teeth."

With that and similar statements the head of the carpenters' union pointed to the community of interest of labor and medicine in opposing "concentration of authority in Washington" and expressed his pleasure in aligning his segment of the labor movement with medicine in this fight.

Medicine is indeed grateful to Mr. Hutcheson for his able and straightforward support. It is even more grateful for the knowledge that the rank and file of labor is not supinely accepting dictation from above, whether that area lies within the labor unions themselves or in bureaucratic circles in the national capital.

In past months many labor leaders have confided their own distrust of compulsory health insurance because of the threat of regimentation that it involves; at the same time they have given lip service to the pronouncements of their national leaders that enactment of health insurance legislation will constitute an indirect increase in wages and therefore be advantageous to their members. The national leaders have also given forth with pronouncements on political candidates and have prepared lists of those to be "purged" because of their support of the Taft-Hartley Law or other bills adopted by the Congress.

In the November elections the rank and file of labor expressed itself in clear terms at the ballot box; the return of Senator Taft to office by the greatest majority he ever polled is an outstanding example of how the laboring man feels about his representatives in Washington. Similar examples are to be found in many other places.

Now, with a national labor leader coming out flatly against compulsory health insurance, the fundamental belief of labor in opposition to compulsion begins to emerge openly. The community of interest in this direction, with medicine and business, has now been expressed in the clear voice of a man whose own integrity is beyond dispute. Mr. Hutcheson is to be congratulated on his soundness, his courage and his open expression of conviction.

Questions and Answers about C. P. S.

Question: How much longer will the C.P.S. physician member be discriminated against in favor of the non-member physician?

Answer: There is, in fact, no such discrimination. One physician, by reason of his being a C.P.S. physician member, shows his support of the medical profession's endeavor to provide prepaid medical care, and agrees to conform to C.P.S. rules which are formulated by his own representatives—the C.M.A. House of Delegates who are also the C.P.S. Administrative Members. Neither is there discrimination against the non-member physician because he may treat C.P.S. patients if they choose his services. Both members and non-members are paid the same fees for services rendered. Where a C.P.S. patient's income is below the $3,600 income ceiling, the physician member accepts C.P.S. fees in full payment of services. This is an example of his support of, and belief in, the prepaid health care formulated by his own profession in California. The non-member is not bound by the income ceiling. But where the patient's income is more than $3,600, member and non-member physicians are in the same position —they may bill according to their usual charges for the services rendered.

Question: What has happened to the Veterans Home Town Care Program? I have claims lagging five months without payment.

Answer: Without the veteran's name it is not possible to give a specific answer to this question. However, it can be said that the Veterans Program is still in full swing and increasing in volume. If claims have not been paid, it must be assumed that the physician's office is perhaps not following the correct procedure of securing authorization for treatment of a veteran patient. Occasionally, a physician requests authorization directly from the Veterans Administration and not from C.P.S. In instances of this nature, there may be considerable delay in processing claims.

Question: Our patients feel that there is a marked discrepancy between what they are promised and what they actually derive from C.P.S. membership. Please comment on this.

Answer: All C.P.S. members receive a Summary of Benefits which gives detailed explanation of benefits, and also are provided with other informational literature. Despite C.P.S.'s best efforts, there are various reasons why it is not possible to avoid every misunderstanding about benefits. Salesmen can, and do, explain contract coverages to employees, but it is not possible to contact family dependents, who often do not have exactly the same benefits as the employees. Further, it is common knowledge that the average person does not carefully study the provisions of any type of insurance he carries. In addition, administration of medical contracts is much more complicated than other forms of insurance, such as life and automobile.

Question: I understand C.P.S. has been working on the sum of $16.00 for assistants in surgery. Why was this sum established?

Answer: The assistant's fee, set by the last Fee Schedule Committee, was $20.00 total for any operation. Because of complaints which followed this action, the Board of Trustees at a recent meeting changed the fee to $20.00 for the first two hours and $7.50 for each additional hour or portion thereof. The Board's action, effective since October 1, restores the "time basis" to the evaluation of the assistant's fee and should make adequate allowance for operations of long duration. The reason physician members were not generally informed of this change is that the entire fee schedule is still under study for possible further revision.

Question: In view of the new C.P.S. contracts, what steps are being taken to inform doctors and their secretaries of the changed benefits, etc.?

Answer: The C.P.S. Physician Relations Department has undertaken an increased statewide program of group instruction meetings to explain benefits and procedures under the new C.P.S. Medical, Surgical and Hospital contracts. In addition to the explanation of the new contracts, these group meetings will include the customary instruction on C.P.S. billing procedures and other pertinent matters.

C.P.S. is also preparing, and will soon distribute, a new Physician Relations Manual to every physician member. The manual provides a complete and permanent source of information on C.P.S. procedures as they apply in medical offices. Subjects covered include: Thorough explanation of the new contracts and point-by-point listing of differences between old and new contracts, the income ceiling, catastrophic coverage, the new labor plan, billing and identification cards.

Question: Under new C.P.S. contracts, will patients be issued new identification cards?

Answer: Yes. These new cards, incorporating a coding system for determining patients' benefits, are fully described in the new Physician Relations Manual (see answer to preceding question). The manual explains the code system and presents visual descriptions of the new cards, with examples of various types of benefits by their code designations. This section of the new manual will be particularly valuable to doctors, nurses and secretaries as a permanent "key" for telling just what benefits a C.P.S. patient is entitled to.

NEWS and NOTES

NATIONAL • STATE • COUNTY

LOS ANGELES

The following officers of the **Los Angeles Radiological Society** have been elected to serve during the year 1951: President, Dr. Moris Horwitz; vice-president, Dr. Joseph Linsman; secretary, Dr. Harold P. Tompkins; treasurer, Dr. M. M. Haskell; member of the executive committee, Wybren Hiemstra.

* * *

The **Beverly Hills Medical Society** has elected the following officers for 1951: Dr. James C. Doyle, president; Dr. Clyde O. Wood, vice-president; Dr. Esther M. Kirk, secretary-treasurer.

* * *

Ceremonies formally opening the Los Angeles County **Physicians Aid Association's home for needy physicians** and their wives or widows were held January 7. In announcing the event, Dr. Elizabeth Mason-Hohl, president of the Aid Association, said that purchase of the 30-room home with spacious grounds at 3500 West Adams Boulevard was made possible by "the many doctors who have contributed so generously throughout the years."

SAN FRANCISCO

Some 5,000 physicians are expected to attend the annual scientific assembly of the **American Academy of General Practice** which is to be held in San Francisco March 19 to 22, according to Dr. Ivan C. Heron, who is directing arrangements for the meeting.

Dr. Stanley R. Truman, president of the Academy, said the program will be designed to present new medical information of most practical help to physicians in general practice. It is to be oriented around two main themes: the role of emotions in disease; and sex and family problems and the discipline of children.

* * *

Dr. Francis T. Hodges has been elected president of the San Francisco Academy of General Practice for 1951, succeeding Dr. Henry Gardner. Dr. Donald Lasteto was elected vice-president, Dr. Theodore Paoli secretary-treasurer, and Dr. Donald Campbell a director.

SONOMA

A **regional medical and surgical convention,** one of a series sponsored in various areas by the Committee on Postgraduate Activities of the California Medical Association, will be held in **Santa Rosa, March 8 and 9, 1951.** The program for the meeting has been prepared by the postgraduate study committee of the Sonoma County Medical Society in cooperation with Dr. Stacy R. Mettier of the University of California School of Medicine. Although intended primarily for the north coast counties, it is open to physicians from other areas as well.

The program follows:

THURSDAY, MARCH 8, 1951

8:00-9:00 a.m.—Registration at Sonoma County Hospital.

Morning Session

Chairman, JOHN J. MOHRMAN, M.D.

9:00-11:00—Medical and surgical demonstrations. Presentation of clinical cases: Arteriosclerosis obliterans, thromboangiitis obliterans, etc.

a. Obliterative vascular diseases:

1. "Differential Diagnosis"—Charles D. Marple, M.D.
2. "Surgical Treatment"—Edwin J. Wylie, M.D.

11:00-12:00—"Anxiety States as Encountered in Practice"—Robert H. Crede, M.D.

12:15-1:30—Luncheon and Round Table Discussion.

Afternoon Session

1:40-2:30—"Treatment of Bomb Blast Burns"—Leon Goldman, M.D.

2:40-3:30—"Traumatic Injuries of Trunk and Abdominal Viscera"—Orville F. Grimes, M.D.

3:45-4:45—"Injuries of the Extremities, Spine, and Central Nervous System"—Frederick C. Bost, M.D.

6:30—Dinner. Subject, "Radiation"—Robert S. Stone, M.D.

FRIDAY, MAY 9, 1951

Morning Session

Chairman, JOHN G. MCGRATH, M.D.
At Santa Rosa Memorial Hospital

9:00-10:40—Medical and surgical demonstrations:

1. Congenital heart disease with cyanosis; patent ductus arteriosus; mitral stenosis—Ellen Brown, M.D.
2. Demonstration of clinical cases—H. Brodie Stephens, M.D.

11:45-12:10—"Diagnostic Problems in Pulmonary Diseases"—Sidney J. Shipman, M.D.

12:15- 1:30—Luncheon and Round Table Discussion.

Afternoon Session

Chairman, E. C. BENNETT, M.D.

1:40-2:40—Section on pediatrics: "Bleeding Diseases"—Henry K. Silver, M.D.

2:45-3:45—Section on obstetrics: "Obstetrical Anesthesia and Analgesia"—Edmund W. Overstreet, M.D.

4:00-5:00—Section on gynecology: "Cancer of Cervix"—Herbert F. Traut, M.D.

GENERAL

The **American Congress of Physical Medicine** will hold its 29th annual scientific and clinical session September 4, 5, 6, 7 and 8, 1951, inclusive, at the Shirley-Savoy Hotel, Denver. In addition to the scientific sessions, the annual instruction seminars will be held September 4, 5, 6 and 7. Full information may be obtained by writing to the American Congress of Physical Medicine, 30 North Michigan Avenue, Chicago 2, Illinois.

* * *

Insurance carriers and self-insured employers have been notified by the Industrial Accident Commission of the State of California of the publication of a **new book on measuring joint function.** Titled "Evaluation of Industrial Injury," this volume has recently been published by Oxford University Press and is now available through medical bookstores.

The Industrial Accident Commission has adopted a resolution ordering that "the report of the Subcommittee for Standardization of Joint Measurements in Industrial Cases

POSTGRADUATE EDUCATION NOTICES

For more complete information as to fees and time of sessions address the institutions as listed.

UNIVERSITY OF CALIFORNIA MEDICAL EXTENSION, San Francisco 22

Course for General Practitioners:

March 5 to 9, 1951. Mount Zion Hospital, 1600 Divisadero Street, San Francisco.

Non-operative management of intestinal obstruction. diagnosis and treatment of more common cardiac disorders, diseases of breast, common proctological problems, common fractures, thoracic problems in childhood, present-day treatment of syphilis, newer concepts regarding the indications for cesarean section, non-surgical treatment of malignant diseases, behavior problems in childhood and urological problems in childhood.

Graduate Instruction:

February 5 to April 9, 1951 (Monday evenings).

Clinical Science as applied to General Medicine, Part III, Gastroenterology.

Postgraduate Courses for Practicing Physicians:

American College of Chest Physicians

(In cooperation with the University of California and Stanford University)

Recent Advances in Diseases of the Chest—February 19 to 23, 1951. Room 103, University Extension Building, 540 Powell Street, San Francisco.

Address: Staccy R. Mettier, M.D., Head of Postgraduate Instruction, Medical Extension, University of California, Medical Center, San Francisco 22.

STANFORD UNIVERSITY, SCHOOL OF MEDICINE, San Francisco 15

Clinical Ophthalmology—March 26 to March 30. Registration limited to 30 physicians limiting their practice to the treatment of diseases of the eye or eye, ear, nose and throat.

Address: Office of the Dean, Stanford University School of Medicine, 2398 Sacramento Street, San Francisco 15, California.

THE COLLEGE OF MEDICAL EVANGELISTS

Histology and Histopathology of the Eye—February 28 through June 20, 1951.

Varicose Veins—March 1 to April 5, 1951.

be approved by the Commission and that all examining industrial physicians be required, when copies of the report are available, to use the standardized methods of examination contained therein in all industrial cases."

The book was produced under the authorship of a committee headed by Dr. Packard Thurber of Los Angeles and approved by both the Industrial Accident Commission and the Council of the California Medical Association. The Association is listed as the actual publisher of the volume, which gives for the first time a standardized method of measurements for joint disability or function and outlines the methods and instruments for this purpose. The book has been hailed as a long-needed guide in a field where large sums of compensation payments may be at stake and where accurate nomenclature and positive and well-understood methods of measurement have long been lacking. It should be of great value to all industrial physicians as well as insurance carriers and self-insurers.

* * *

"Radiological Defense" is the subject of the 18th Annual Conference of Teachers of Clinical Radiology, to be held February 10 in the Palmer House, Chicago. As the conference "underlines the responsibility of radiologists in atomic attacks," the American College of Radiology said, in announcing the meeting, "it is suggested that state medical associations and county medical societies avail themselves of the services of local radiologists in the development of local civil defense programs."

The **National Gastroenterological Association** has announced its annual cash prize award contest for 1951. One hundred dollars and a certificate of merit will be given for the best unpublished contribution on gastroenterology or allied subjects. Certificates will also be awarded those physicians whose contributions are deemed worthy. Contestants residing in the United States must be members of the American Medical Association. Those residing in foreign countries must be members of a similar organization in their own country. Entries should be limited to 5,000 words, be typewritten in English, prepared in manuscript form, submitted in five copies accompanied by an entry letter, and must be received not later than June 1, 1951. Entries should be addressed to the National Gastroenterological Association, 1819 Broadway, New York 23, N. Y.

* * *

Dr. David Nye Barrows, director of gynecology and medical executive officer of the New York Polyclinic Medical School and Hospital, was made dean of the institution January 1, 1951. Dr. Barrows is also clinical professor of gynecology and obstetrics at New York University College of Medicine.

* * *

The **American National Red Cross** will issue an appeal for $85,000,000 in contributions during the month of March to support the organization's services to the nation's armed forces and its civilian programs. Of the total, $9,462,000 is expected to be raised in California.

INFORMATION

Facts About A. M. A. Dues for 1951

1. American Medical Association membership dues for 1951 are $25.

2. Fellowship dues for 1951 are $5 and are exclusive of membership dues.

3. American Medical Association membership dues are levied on "active" members of the Association. A member of a constituent association who holds the degree of Doctor of Medicine or Bachelor of Medicine and is entitled to exercise the rights of active membership in his constituent association, including the right to vote and hold office as determined by his constituent association, and has paid his American Medical Association dues, subject to the provisions of the By-Laws, is an"active" member of the Association.

4. American Medical Association membership dues are payable through the component county medical society or the constituent state or territorial medical association, depending on the method adopted locally.

5. Fellowship dues are payable directly to the headquarters of the American Medical Association, 535 North Dearborn Street, Chicago 10, on receipt of the bill for such dues.

6. A dues-paying, active member is eligible for Fellowship and may request such status by direct application to the Secretary of the American Medical Association. Applications for Fellowship are subject to approval by the Judicial Council of the Association.

7. Commissioned medical officers of the United States Army, the United States Navy, the United States Air Force or the United States Public Health Service who have been nominated by the Surgeons General of the respective services, and the permanent medical officers of the Veterans Administration who have been nominated by its Chief Medical Director, may become Service Fellows on approval of the Judicial Council. Service Fellows need not be members of the component county or constituent state or territorial associations or the American Medical Association and do not pay Fellowship dues. They do not receive any publication of the American Medical Association except by personal subscription. If a local medical society regulation permits, a Service Fellow may elect to become an active member of a component and constituent association and the American Medical Association, in which case he would pay the same membership dues as any other active member and receive a subscription to *The Journal of the American Medical Association.*

8. An active member of the American Medical Association may be excused from the payment of American Medical Association membership dues when it is deemed advisable by the Board of Trustees, provided that he is excused from the payment of full dues by his component society and constituent association.

The following may be excused in accordance with this provision: (a) members for whom the payment of dues would constitute a financial hardship as determined by their local medical societies; (b) members in actual training for not more than five years after graduation from medical school, and (c) members who have retired from active practice.

9. Active members of the American Medical Association are not excused from the payment of American Medical Association membership dues by virtue of their classification by their local societies as "honorary" members or because they are excused from the payment of local and state dues. Active members may be excused from the payment of American Medical Association membership dues only under the provision described in Paragraph 8 above.

10. American Medical Association membership dues include subscription to *The Journal of the American Medical Association.* Active members of the Association who are excused from the payment of dues will not receive *The Journal* except by personal subscription at the regular subscription rate of $15 a year.

11. Member Fellows may substitute one of the special journals published by the Association for *The Journal* to which they are entitled as members. A Fellow who substitutes a special journal will not also receive *The Journal.*

12. A member of the American Medical Association who joins the Association on or after July 1 will pay membership dues for that year of $12.50 instead of the full $25 membership dues.

13. An active member is delinquent if his dues are not paid by December 31 of the year for which dues are prescribed and shall forfeit his active membership in the American Medical Association if he fails to pay the delinquent dues within thirty days after the notice of his delinquency has been mailed by the Secretary of the American Medical Association to his last known address.

14. Members of the American Medical Association who have been dropped from the Membership Roll for nonpayment of annual dues cannot be reinstated until such indebtedness has been discharged.

15. The appointment of delegates from each constituent association shall be one delegate for each thousand, or fraction thereof, *dues-paying active members of the American Medical Association* as recorded in the office of the Secretary of the American Medical Association on December 1 of each year.

School Nutrition Program Recommendations

Recommendations to assist local school administrators in developing a nutrition program have been adopted by the State Joint Committee on School Health and approved by Mr. Roy E. Simpson, director, State Department of Education, and Dr. Wilton L. Halverson, director, State Department of Public Health.

Like other work of the committee, the statement on school nutrition represents the thinking of the two state departments. It is intended as a guide to local agencies, not an attempt to dictate local policies.

RECOMMENDATIONS ON SCHOOL NUTRITION

School food services can be justified only when they are considered in the light of the total educational program. The primary objective should be to provide pupils with a nutritious lunch, and to make the lunch program an integral part of the total educational program.

In order for the school lunch program to be most effective, the following recommendations are made:

1. The school lunch program is an important part of the total educational program and is, therefore, the responsibility of the school administration. Teachers, pupils, parents, custodians, and lunchroom supervisors and managers should share this responsibility.

2. The school lunch program should be closely correlated with a program of health, nutrition and social education.

3. Operation should be on a nonprofit basis with emphasis on wholesome food served as cheaply as possible in order to secure a high percentage of participation by children. Insofar as feasible and necessary, all costs legally permissible under the Education Code should be paid from tax funds.

4. Only those beverages which have health and nutritional value should be offered in elementary and high schools.

5. Such items as fruits, dried fruits, nuts, plain unsweetened popcorn and ice cream should be offered instead of candy.

6. Where morning and afternoon service is provided, it should be limited to fruit, milk, fruit juices, and should be scheduled so that it will not impair the pupil's appetite for his regular meals.

7. The dining area should be supervised by certificated personnel during the lunch period.

8. A nutritious lunch, priced as a unit, should be featured.

9. Special dishes provided for teachers should not be at the expense of an adequate lunch for the children, either in terms of a higher charge to children or at a reduction of food values.

10. Whenever possible, there should be a "food handlers" course offered to lunchroom personnel. In districts where there is a full-time local health department, the course may be provided by this department. In areas where there is no full-time local health department, the Bureau of Sanitary Engineering of the State Department of Public Health should be contacted.

11. Students who bring their lunches from home and students who purchase their lunches at school should be permitted to eat together.

12. In planning for food service facilities, administrators should give consideration to the educational aspects of the school lunch program.

13. Food sales in the schools by various organizations for fund-raising purposes often conflict with the total health program, and such sales should be discouraged.

More Vets Eligible for C. P. S.-VA Program

Action of the last Congress made veterans of the Spanish-American War, the Philippine Insurrection or the Boxer Rebellion eligible for out-patient medical care, at government expense, for any disability, without regard to its service connection.

By adoption of Public Law 791 by the last Congress, the estimated 11,000 such veterans living in California are brought within the scope of the California Physicians' Service-Veterans Administration Home Town Care Program and may receive treatment from C.P.S. physician members. These veterans may apply to any C.P.S. physician member for necessary medical care and the physicians, in turn, may request authority for treatment in the same manner as for treatment of veterans for service-connected disease or disability. The only condition on the veteran's eligibility is that he was discharged honorably.

All rules which apply to treatment of other veterans (awaiting approval of authorization, etc.) must be observed by both the veteran and the physician. However, both are assured that authority will be issued in every case where the discharge requirement is met.

Nursing Care for Veterans

Under a new VA ruling, any veteran entitled to out-patient services under the C.P.S.-VA Home Town Care Program is also entitled to necessary home nursing care. To obtain nursing services, physicians should make requests to the Chief Medical Officer at VA regional offices in San Francisco or Los Angeles, using VA Form 10-2868.

BOOK REVIEWS

PRIMER OF ALLERGY. By Warren T. Vaughan, M.S., M.D. Third Edition, revised by J. Harvey Black, M.D. C. V. Mosby Company, 1950.

The third edition of this book evidences a demand for information about allergy and its manifestations in patients. Dr. Black has not altered the delightful style and manner of writing of Dr. Warren Vaughan, whose thorough knowledge of every phase of allergy is evidenced in this text even though written for the nonmedical reader. Patients who read this book will gain important information about the causes of their allergic symptoms, the available diagnostic procedures, and the methods of control which are used by their physicians. They will appreciate the persistence of allergic reactivity and realize that relief requires their intelligent cooperation along with the persistent study and effort on the physician's part. As the "Primer" elucidates, excellent results from treatment can be expected in a considerable number of patients, good but not complete relief in a larger number, and failure in only a few patients who have cooperated in the advised manner.

Dr. Vaughan's emphasis on the importance of food allergy is of great importance and continues to counteract the nihilistic attitude of some allergists toward food allergy. His many publications on food allergy justify this emphasis. In stressing food allergy there is no detraction from the equally important inhalant allergy. The possible value of food diaries is in question. Time required to analyze these, which too often are inaccurate, might be better spent by instructing the patient in the accurate use of diet trial for adequate periods.

The complete reading of any text particularly on allergy reveals opinions and statements with which the reviewer disagrees. On page 61 the impression is gained that food allergy usually is indicated by positive reactions except in urticaria. Other students of allergy find that most manifestations of food allergy cannot be controlled by test-negative diets. On page 64 it is stated that specific allergic sensitizations tend to disappear with the lapse of time. Too often, however, this does not occur. The opinion rendered to the patient on page 75 rarely is so definite and final, particularly when skin reactions to inhalants and foods are the basis of such conclusions. These are a few of the questions raised in the reviewer's mind, but all are of minor significance compared with the available information, advice and help and encouragement contained in the volume.

* * *

PARS PRO TOTO—Breviarium Medicum Internationale—Abbreviations in International Medical Literature including Sister Sciences. By Alfred Peyser. Stockholm, Almqvist & Wiksells, 1950.

One cannot recognize the value of such a book as "Pars Pro Toto" without execrating the need for it.

Possibly without intent to do so, the first sentence in the preface damns the slothful and all too general use of dialectal abbreviations in scientific communications: "Abbreviations are so commonly used in medical literature that the reader is often obliged to consult voluminous . . . books of reference . . . for the explanation of their meaning." In other words, a language which ought to be catholic is often made provincial.

The book is intended, the preface concludes, to help the distressed reader find what might be meant by a quotation such as, "A lecture on PABA given by Mr. Brown, M.D., D.P.M., M.E.F., at a meeting of the Ufaw." To this end, abbreviations used in medical and related literature in the principal languages of the world are listed alphabetically. Considering the vastness of the task, it is excusable that some abbreviations which (lamentably) appear to be standard in at least one small area of the globe are not listed. For instance, G.O.E. (for gas-oxygen-ether—what else?) is omitted. Perhaps the abbreviation is unknown in Sweden, where Pars Pro Toto was published—a possibility which should give pause to anesthesiologists who have something to say of value to an audience larger than the staff of one hospital. It is a little disturbing to provincial complacence, moreover, to note that mEq. (for milliequivalent) is so little known abroad that it is not even listed; the abbreviation given is m.equiv. As further illustration of the possibility for confusion through the use of abbreviation, the initials M.D. may mean, besides Medicinae Doctor, such a range of things and conditions as Manic Depression, Mental Deficiency, Mean Deviation, Medical Department, Maximaldosis, and, in the jargon of military medicine, Medicine and Duty (fit for duty).

The need for books of this kind probably will remain, despite the examples and instructions of Osler, Fowler, and Fishbein.

* * *

A TEXTBOOK OF X-RAY DIAGNOSIS. Second Edition. Volume III. By British Authors in Four Volumes. Edited by S. Cochrane Shanks, M.D., F.R.C.P., F.F.R., Director, X-Ray Diagnostic Department, University College Hospital, London; and Peter Kerley, M.D., F.R.C.P., F.F.R., D.M.R.E., Director, X-Ray Department, Westminster Hospital; Radiologist, Royal Chest Hospital, London. 830 pages with 694 illustrations. W. B. Saunders Company, Philadelphia, 1950. $18.00. Vols. I and II to be published later.

This volume is divided into five parts which are as follows:

Part I, The Alimentary Tract, by Drs. Cochrane-Shanks, Johnstone and Teall.

Part II, The Biliary Tract, by Dr. Kerley.

Part III, The Abdomen, by Dr. Kent Harper.

Part IV, Obstetrics and Gynecology, by Dr. Rohan Williams.

Part V, The Urinary Tract, by Drs. Shanks and Johnstone.

The various aspects of diagnostic radiology of importance to students and those interested in standard textbook descriptions are ably outlined. There are several new illustrations, notably in the sections on obstetrics and the urinary tract. Unfortunately, as in the former editions, the illustrations are in positive, not negative form. This detracts considerably from the value of these well chosen figures. Your reviewer is well aware of the controversy regarding the ease of reproduction of roentgenograms and the fact that many distinguished journals use the positive form. Nevertheless, he believes that the negative form has superior teaching value and is certainly easier for most physicians to correlate with the roentgenograms of the patient one is studying.

There are a few sections of the text which might be clarified. The editorial board might call for a majority vote on improved classification of hiatus hernias. The terminology "hypersthenic" and "hyposthenic" gallbladder seems a little out of date considering the very fluid nature of the shape and appearance of this viscus in the living person.

Considering the enormously broad nature of the field covered, we must continue to recommend this book to students and practitioners.

A TEXTBOOK OF X-RAY DIAGNOSIS. Vol. IV. By British Authors in Four Volumes, Edited by S. Cochrane Shanks, M.D., F.R.C.P., F.F.R., Director, X-Ray Diagnostic Department, University College Hospital, London, and Peter Kerley, M.D., F.R.C.P., F.F.R., D.M.R.E., Director, X-Ray Department, Westminster Hospital; Radiologist, Royal Chest Hospital, London; 533 Illustrations; W. B. Saunders Company, Philadelphia, 1950. $15.00. (Vols. I and II to be published later.)

This volume is devoted entirely to disorders of bones and joints.

Most of the chapters are similar to those of the first edition, with minor revisions. However, there has been complete revision of the chapter on traumatic lesions of bones and joints, and the chapter on tumors and cysts. There are 150 more pages than in the previous edition and 230 more illustrations, 130 of these being in the chapter on traumatic lesions.

The total number of authors is 17, there being three additions to the previous group, and one deletion (one of the senior editors, Dr. Twining, having died).

The volume deals with normal bones and joints, general pathology of bone, congenital deformities, traumatic lesions, inflammatory diseases, static and paralytic lesions, constitutional diseases, and tumors and cysts of bone. There is a section on intervertebral disc lesions, on lesions of soft tissues and on localization of foreign bodies.

The viewpoint expressed is that of British radiology, notably of men in the London and Manchester areas. The text is clear. Most of the illustrations are good, but unfortunately are in negative instead of positive form.

Some readers will regard the format as "new and gay compared to a rather gloomy wartime format" of the previous edition. This particular reviewer admits a preference for the former style.

The bibliography has been enlarged. The work can be recommended for use by orthopedists, radiologists, and the shelves of most medical libraries.

* * *

PSYCHIATRIC SECTIONS IN GENERAL HOSPITALS —An Architectural Record Book. By Paul Haun, M.D., Med.Sc.D., Assistant Professor of Psychiatry, Georgetown University Medical School. F. W. Dodge Corporation. Published by Architectural Record, 119 West 40th Street, New York 18, N. Y., 1950. $4.00.

In these days when large numbers of new general hospitals are being planned or being built, it is unforgiveable not to consider the incorporation of psychiatric units into such construction. Communities that are acutely aware of the need for hospital facilities for medical and surgical beds frequently ignore an equally pressing need for psychiatric beds unless individuals in these communities have been presented with such problems when close members of their families develop mental illness. There is no need to re-emphasize the importance of and pressing necessity for more psychiatric beds when it is known that over 51 per cent of beneficiaries in the Veterans Administration are receiving hospital treatment for mental illness. If psychiatric hospital facilities were available in general hospitals of smaller communities, more psychiatrists would be attracted to such areas. Such psychiatric units would emphasize the treatment of illness of short duration and good prognosis, and leave to larger psychiatric hospitals continued treatment problems. An additional advantage to the medical staff would be an increasing cooperation and integration of medical discipline, and would bring psychiatrists, internists, and surgeons into closer liaison with one another.

The author presents excellent arguments for a truly "general hospital" which contains a psychiatric unit in satisfying community needs, improved patient care, improvement of patient morale, opportunities for research, and economy of operation. He follows a patient from the moment of his admission, through the period of interview and examination, diagnosis and treatment, to his discharge, and he analyzes in detail the facilities necessary for the patient's care both from the administrative and professional standpoint. Eight different plans for psychiatric floors in general hospitals are presented, rated variously from excellent to unsatisfactory, and analyzed as to desirable and undesirable aspects. To these Butler and Erdman, hospital architects, have added a chapter on their ideas of an ideal psychiatric service of 24 beds on the sixth floor of a general hospital.

This little volume is an excellent and practical one; it is organized and presented in such a way as to indicate specific ways and means of integrating a psychiatric unit into a general hospital.

* * *

HAIRFREE — The Story of Electrolysis. By Samuel Simon, 1370 Washington Ave., Miami Beach, Florida, 1948.

This 100-page booklet is valuable information mainly for patients who suffer from the problem of superfluous hair and also for prospective students of electrology. It is too elementary for general physicians, dermatologists or experienced electrologists.

* * *

CORONARY CIRCULATION IN HEALTH AND DISEASE. By Donald E. Gregg, M.S., Ph.D., M.D., Chief Research Physician, Medical Department, Field Research Laboratory, Fort Knox, Kentucky. Lea and Febiger, Philadelphia, 1950. $4.50.

It is most encouraging to find in a book of this sort the simple, straightforward attack on the stated problem, as presented by the author. In spite of his years of experience in the field of coronary circulation he has not lost sight of the one problem which is undoubtedly the cause of much of the divergence of opinion among investigators in cardiovascular diseases. Dr. Gregg devotes a great deal of time in impressing upon the reader the progress made in the study of the "intact" heart. Many comparisons are made of the various types of investigations carried on. He clearly shows the difference in results obtained by working on the open-chest dog and the closed-chest, anesthetized dog. It is here that the reader sees the shortcomings of such work and the author attempts to evaluate it, always keeping in mind the experimental handicaps.

The treatment of manometers used in recording pulsatile cardiac pressures is a very difficult task and is handled very adeptly. By a straightforward evaluation of the problem of recording pressure pulses, the pros and cons of various types of recording manometers can be seen. In this manner the reader can practically determine for himself which type of manometer is best suited for his problem. Certainly more than a superficial knowledge of these instruments is evident from the thorough treatment given them. Similarly, his presentation of the pressure curves obtained in his experiments shows a great deal of experience and is the product of a great deal of thought and analysis of the various curves. Although no final judgment is passed, the controversies over the "normal" pressure curves are developed in detail. These are accompanied by the basic hydrodynamic considerations of the pressure pulse and supply the reader with sufficient information to evaluate these curves for himself.

Complete, accurate and basic descriptions are given of the various tools available for the study of coronary flow. Their complete development is given and perhaps the only thing lacking in each instance is a critical analysis of these various instruments. After the many years of experience with these problems that Dr. Gregg has had, it doesn't seem out of order to ask for his personal observations and criticisms on points that even today are causing so much controversy. However, the very thorough manner in which Dr. Gregg handles each one of these problems enables the reader,

with his better understanding of them, to look at them more intelligently and come to his own conclusions.

Clinical coronary disease is, as might be expected, not covered in this book, but two excellent chapters, one on the statement of the problem and the other on the coronary circulation in heart disease and cardiac failure, should be of particular interest to the clinician.

Gregg's book can be highly recommended to all physicians who would like a critical discussion of experimental approaches to the study of the coronary circulation.

* * *

A HISTOLOGY OF THE BODY TISSUES—With a Consideration of Their Functions. By Margaret Gillison, Diplomate of Bedford Physical Training College, Member of the Chartered Society of Physiotherapy. The Williams and Wilkins Company, Baltimore, 1950. $3.50.

Miss Gillison has attempted to bridge the gap between elementary texts of anatomy and physiology and those dealing exclusively with histology, to meet the needs of students of physiotherapy and physical education.

After a brief but comprehensive introduction during which she outlines the structure, physiology and differentiation of cells, there is a helpful resume of histologic methods. Fixation, cutting, staining and mounting of tissues are briefly explained. The next two chapters on connective tissue, cartilage and bone are well written and beautifully illustrated. The author might profitably have briefly outlined the part these tissues play in repair, keeping in mind the avowed purpose of the text.

The chapter on blood and tissue fluids contains a great deal of information, particularly dealing with metabolic processes, condensed into a few pages. The statement (page 113) that the cerebrospinal fluid "receives the secretion of the pituitary gland" is regrettable and should be deleted from future printings. The author discusses blood clotting and hemostasis but overlooks the importance of contraction of the severed blood vessel, a major factor.

The scope of the book is necessarily restricted, however. Miss Gillison has emasculated her text by omitting most of the male reproductive tract: the prostate, seminal vesicles, urethra and penis. Other unfortunate omissions include the eye, ear, dental structures and thymus.

The book is well bound and of convenient small size. The print is clear, the paper of good quality. All illustrations are drawings, meticulous in detail, simple and well chosen.

The book is recommended to those for whom it is written, as it fills a definite need.

* * *

AN ATLAS OF HUMAN ANATOMY. By Barry J. Anson, Ph.D., Professor of Anatomy, Northwestern University Medical School. W. B. Saunders Company, Philadelphia, 1950. $11.50.

The preparation of an atlas of human anatomy is a considerable undertaking. It requires an inordinate amount of time and patience, many hours of dissection, the close cooperation of author and artist, and, above all, a clearly defined plan. In general, two methods have usually been adopted, the systematic and the regional. Both have their advantages and disadvantages. The systematic lends itself to greater clarity and ease of presentation, but fails to some extent in developing the relations of the various systems to one another. The regional is the superior in the latter regard, but is often confusing in that an excess of detail muddies the execution. Most authors have, therefore, sought a compromise between the two methods.

In the present atlas, the author, Barry J. Anson, professor of anatomy at Northwestern University Medical School, has adopted a compromise in which the material is arranged in regional sections, such as the head, the neck, upper extremity, abdomen, etc., and in each section the arrangement is largely systematic; the bones, joints, muscles, vessels and nerves being taken up in that order. Furthermore, it is the author's stated aim "to prepare an atlas of gross anatomy whose pictorial content would be based upon new dissections, serially prepared, and upon variable morphological features statistically presented." In carrying out these aims, the drawings of the dissections are to be accurately prepared and "neither warped to conform to preconceived, stereotyped concepts of human morphology, nor simplified to serve as transitory chartings for a laboratory excursion." It is the further purpose to present, with few exceptions, only those features of human structure which are demonstrable in the regular study of the cadaver. In addition, the atlas was prepared so as to be useful to both the beginner and the physician who "require a reference book based, not upon perennially copied figures, but upon the artists' unbiased portrayal of dissection."

These are all very laudable aims, but the question at hand is to what extent they have led to the production of a useful and well balanced atlas of human anatomy. But, first of all, a word as to the drawings themselves, since in any atlas much depends upon the artists' skill. Several artists have participated, Mary Dixon Elder, Tom Jones, Willard C. Shepard, Lucille Cassell Innes and Jean McConnell, so that what is lost by unevenness is gained by variation in style. The media consist of half-tone and line, with the occasional use of a little color. By and large, the execution and reproduction of the drawings is good. Some are excellent but some are a little flat and, at times, line has been chosen where half-tone would have had greater advantages. Throughout, the influence of the school of Max Bröedel, the late dean of American illustrators, is very evident. It is unfortunate that full color is no longer feasible owing to high costs, since it does much to relieve the monotony of black and white. It is a sad commentary on our times that color is only possible in the advertisements of the pharmaceutical houses and denied to real scientific endeavor and instruction.

However, despite the efforts of the artists, and apart from individual illustrations, the reviewer has found the atlas as a whole disappointing. It would appear that the atlas had not been conceived initially in its entirety and, therefore, gives the impression of a collection of drawings with little relation between them. It is extremely difficult to review a single region in continuity, and stylistic differences enhance this difficulty. The necessity of a transition from the systematic to a regional presentation has been ignored. There is a lack of balance and proportion throughout the work. In part, this is due to the attempt to present morphological variations. A knowledge of variation in certain regions is extremely important especially to the surgeon. No one would deny the necessity of portraying the differing arrangements of the vessels in the hepatic pedicle, but what is to be gained from a knowledge of the six types, two hypothetical, of the relationship of the sciatic nerve to the piriformis muscle, of the variations in insertion of the plantaris tendon, of the nineteen drawings of variations of the extensor tendons of the hand, of the ulnar slip to the flexor pollicis longus, to mention a few examples at random; whereas, one may look in vain for an adequate treatment of the important ligaments or bursae of the knee joint. Surely, such information on variations is better confined to the periodical literature where it is available in greater detail to the interested student or, in view of Doctor Anson's great contribution in the field of anatomical variation, the development of a monograph on the subject. Are the anatomist and physician more interested in the anatomy of the living or of the dead? Would they prefer information on the positions of abdominal viscera obtained from the 425 cadavers with percentage variations as illustrated on p. 286, or that obtained from radiological examination of the living? It is indeed strange to

see a modern atlas without a single roentgenogram. Although the author has placed limitations on what he will present in the way of embryological information, we find some illustrations on the development of the heart, but nothing on the fetal circulation, despite the enormous importance of the latter in relationship to congenital lesions of the infant.

These imperfections, and they are numerous, are undoubtedly due to the author's specious reasoning that he is presenting an "unbiased portrayal of dissection." If this is the aim, why not employ photography, since the work of every artist reflects not reality, but his interpretation of reality. To use the artist to advantage is to recognize this fact and to employ his talents for the creation of clarity of expression which the camera cannot yield. It is a sort of scientific snobbery to claim faithfulness of drawing and to feel that an illustration which is interpretative has no place. In fact, generalization is one of the aims of science and has given us our Darwins, and so, the abstract figure representing average conditions is not to be condemned out of hand as "stereotyped," but rather as a measuring rod from which deviations may be assessed. Secondly, the reviewer's sense of disappointment stems from a feeling that the approach of this atlas is too academic and does not fill the requirements of the intended audience, or should one say, spectator.

Despite the unfavorable opinions expressed above, there is much to be commended in Doctor Anson's atlas. As has been mentioned, many of the drawings are excellent and have great instructional value. For example, the series on the female pelvis and its contents have unity and should prove of great value to both medical student and practicing physician. There is a wealth of information on variation which is not to be found elsewhere. In all, keeping in mind the limitations mentioned above, student and physician will find something of profit in Anson's *Atlas of Human Anatomy.*

* * *

AN INTEGRATED PRACTICE OF MEDICINE—PROGRESS VOLUME (Vol. V). Modern Developments in Therapeutics and Methods of Treatment to accompany 4-volume Integrated Practice of Medicine. Contains cross reference to the original 4 volumes and an index system to all 5 volumes. W. B. Saunders Company, Philadelphia, 1950. 734 pages. $10.00.

This Progress Volume brings up to date Hyman's Integrated Practice of Medicine. The new material is concerned chiefly with recently devised therapeutic measures and suggestions for specific management of the individual patient. Like the rest of the series, this volume provides a great deal of well-coordinated, easy-to-find information, flavored strongly with Dr. Hyman.

The style of the book is somewhat unusual and may halt the reader until he is accustomed to it: The subject matter is arranged alphabetically without regard for other classification. This results in a conglomeration of discussions on diseases, remedies and lahoratory procedures. For example—to choose at random—one finds on pages 4379 and the following these successive headings: Isonorin Sulfate N.N.R., Isopenatquine Oxalate, Jaundice, Klehsiellosis, Koch-Weeks Conjunctivitis, Lahoratory Procedures Simplified, Lambliasis.

Certain errors should be pointed out. On page 4194, androgens are recommended for the prevention and treatment of the orchitis of mumps. Fortunately the cross-reference on page 4418 (if the reader jumps over there) advocates stilbestrol for the male and testosterone for the female. On page 4634 virus dysentery is passed over as a disease which "requires only symptomatic therapy" (regardless of the fact that it may cause death in infants). And the public health experience of the past 20 years with the rising incidence of diphtheria, especially in adults, makes one wonder at the brash optimism of such a statement as "With compulsory immunization, diphtheria can be eliminated. Effective artificial active immunization can be induced by injection of diphtheria toxoid" (page 4302).

Of the 734 pages, 165 are given over to a relisting of the general index of volumes 1 to 4. Inasmuch as a separate index volume containing the same information has previously been published the reviewer can see little reason to include this in the present volume.

* * *

SEXUAL FEAR. By Edwin W. Hirsch, B.S., M.D., Attending Urologist, Englewood Hospital, Chicago, Illinois. Garden City Publishing Co., Inc., Garden City, N. Y., 1950. $3.00.

This is a strange book. It is written by a genito-urinary specialist who has concerned himself with the psychology as well as the mechanics and hydraulics of the generative system. His main thesis appears to be that man, and woman, have fallen upon evil days because of "sexual fear." The first part of the volume is devoted to an account of what purports to be the origin of these fears, taking the reader over the whole period of recorded history in relation to sexual customs. This is fairly interesting and, in fact, rather racy reading, but leaves the reader with the feeling that its mission has failed of accomplishment.

In the remainder of the book, there are numerous portions dealing with impotence in the male and frigidity in the female which demonstrate the practical good sense of the author, and which can be read to advantage. It is rather doubtful, however, if the lay reader would be able to winnow the wheat from the chaff, and for this reason I do not believe that the book would be helpful to the patient with sexual problems, to whom it is apparently directed. For the physician, there are prohably better and less dilute sources of information.

* * *

HOUSE STAFF MANUAL—LOS ANGELES COUNTY HOSPITAL. By David Hamm, Jr., M.D., Editor-in-Chief; Raymond D. Goodman, M.D., Ernest T. Smith, M.D., and Robert H. Van Scoyoc, M.D., Assistant Editors. Sixth Edition. Los Angeles County Hospital Staff, 1950. $4.12.

Interns who have faced with each change of service, a welter of new routines, technical procedures, and diagnostic responsibilities, will understand the need for this type of outlined information. The seventy-odd contrihutors, all members of the attending, house, and resident staff of the Los Angeles County Hospital, also realize that for this purpose a concise, didactic guide, whatever its errors of omission and commission, is superior to a more pedagogically satisfying monograph. From this point of view the book is a success, and criticism of proofreading and individual opinion is pointless.

The subject matter is so arranged that it is readily available. Essential details and clinical "pearls" are intermixed in outline-form. Sections deal with General Medicine (e.g., anticoagulant therapy, body fluid and electrolyte problems, hypertensive heart disease), Pediatrics, Psychiatry, Neuromedicine, Neurosurgery, General Surgery, Anesthesia, Urology, Orthopedics, Gynecology, Obstetrics, Dermatology and Syphilology, Ophthalmology, Otolaryngology, and laboratory procedures. Useful smaller sections are presented, such as those on Physical Medicine, Radiation Therapy, Medico-Legal problems. A Spanish vocabulary is added for good measure.

Of the numerous house-staff manuals, this is one of the best and possibly the largest (can medical knowledge be compressed to fit the intern's largest pocket?). If the volume is accepted as an outline of standard procedure at *one* institution, it should prove most valuable to the detail-minded house officer and practicing physician.

RICHTLINIEN EINER PHILOSOPHIE DER MEDIZIN. By A. W. Kneucker, M.D., Riverside, California, Verlag Wilhelm Maudrich, Wien, 1949. $4.50.

This book, published by Wilhelm Maudrich, Vienna, and written by Professor A. W. Kneucker, in Riverside, is mainly a philosophical dissertation on subjects related to medicine and in the field of medicine. Although interesting to the author and a certain small group in the medical profession, it probably would not be of any interest to the general practitioner both because of the content and the fact that it is written in German.

* * *

EMERGENCIES IN MEDICAL PRACTICE. Edited by C. Allan Birch, M.D., F.R.C.P., Physician Chase Farm Hospital, Enfield. With 131 illustrations, 8 in full color. 564 pages. Second Edition. The Williams and Wilkins Company, Baltimore, 1950. $5.50.

This is a book designed primarily for the general practitioner and includes in its scope emergencies in all branches of medicine occurring not only on land but on the sea and in the air. The appearance of a new edition of this book within less than a year bespeaks its popularity among the practitioners in Great Britain. The book represents the combined efforts of numerous collaborators who have covered their subjects well. As can be expected there is some overlapping. Beside the ordinary medical and surgical emergencies all sorts of emergencies are discussed such as how to remove a fixed wedding ring. Just why discussion of this subject should be sandwiched in between foreign bodies and acute gout is not quite clear to the reviewer. A 30-page discussion of medical proceedings of various sorts such as lumbar punctures, thoracentesis, etc., would appear useful to the beginner in practice, especially in a country where internship training is not universal. One might disagree with some things in the book such as a statement that the acute abdomen of diabetic acidosis is "probably due to distention of the liver by fat." The strong improvement in seasickness therapy effected by the induction of dramamine did not appear at all clean cut to the author who rates its effect no higher than the old-time methods of treatment. The reviewer was interested by the method of treatment of mushroom poisoning consisting of the oral consumption of uncooked rabbit's brain and rabbit's stomach over a period of days.

In England the metric system has made small inroads on the apothecary system. One is sorry again that Napoleon did not get to England to replace, as he did in the rest of Europe, the outmoded system of apothecary measurement by the metric standard.

Making allowances for differences in practice in Great Britain and the United States the book should prove to be particularly useful to the young general practitioner in the Western Hemisphere.

* * *

NOSES. By Harold M. Holden, M.D. An exhaustive work on the Nose in Psychology, Literature, Art, Plastic Surgery, Folklore and Anthropology. Illustrated. 252 pages. The World Publishing Co., Cleveland, 1950. $3.50.

Doctor Holden has written an interesting and entertaining book of popular appeal, comprising the folklore concerning the nose and the part this feature plays in human history and human relationships. It is apparent that Doctor Holden has been collecting choice quotations regarding noses from his reading over a period of years, and this material forms the illustrative data of his book. Fortunately he has not burdened it with the pedantry of physical anthropology; however he does give the elements of the study of physiognomy in a concise form. The book is recommended for those who wish to acquaint themselves with some of the concepts which have made plastic surgery the craft it is.

FACIAL PARALYSIS. By J. Parkes Findlay, M.B., Ch.M., Honorary Assistant Aural Surgeon, Sydney Hospital. Published by the Author and Distributed by Angus and Robertson, Ltd., 89 Castlereagh St., Sydney. 17/6. 1950.

This small book of 45 pages on facial paralysis, being a treatise on clinical classification of paralysis of facial nerve, is published by the author. There does not seem to be much new in this book, either in the differential diagnosis or treatment, except that the author advocates decompression of the nerve in facial palsy due to what he terms vascular occlusion or due to trauma, but those due to various infections such as disease of the geniculate ganglion, facial weakness and neuritic facial weakness recover without any difficulty. He feels that the symptoms of palsy due to vascular occlusion are severe pain, sharply localized behind the ear and which may be present one to three days before the development of paralysis.

* * *

THE PATHOLOGY OF INTERNAL DISEASES. By William Boyd, M.D., Dipl. Psych., M.R.C.P. (Edin.) Professor of Pathology and Bacteriology in the University of Toronto. Fifth Edition, thoroughly revised, with 391 illustrations and 11 colored plates. Lea and Febiger, Philadelphia, 1950. $11.00.

This new edition of Dr. Boyd's well-known book maintains the writer's readable style. A considerable effort has been made to add essential new material to bring the book up to date. Among the new presentations sections on pulmonary fibrosis, adrenal cortical relationships, arteritis and related diseases, and bone and joint pathology are worth special mention. There are three new color plates and a number of new black-and-white illustrations.

The book represents an effort to discuss disease in terms of tissue changes, and it should be an aid to practitioners seeking to explain clinical manifestations of disease.

* * *

STEROID HORMONES AND TUMORS, Tumorigenic and Antitumorigenic Actions of Steroid Hormones and the Steroid Homeostasis, Experimental Aspects. By Alexander Lipschutz, M.D., Director of the Department of Experimental Medicine, National Health Service of Chile. Formerly Professor of Physiology; The Williams & Wilkins Company; Baltimore; 1950. $6.00.

This book of 309 pages is a very complete presentation of the author's own work on the production of growth responses in animals by estrogenic substances. Considerably less than half of the book relates to the work of other laboratories with respect to steroid hormones and tumor growth. The book contains an exhaustive discussion of available knowledge concerning the production and inhibition of fibrous tumors in the female pelvic organs and elsewhere in the guinea pig by the use of estrogens, and based largely upon this work the author's philosophy of the nature of tumors is presented. The concept of endocrine imbalance is used freely in the discussion of pathogenesis of abnormal growth responses to steroid hormones, and considerable emphasis is placed upon the finding that tumor-like proliferations in animals occur much less prominently when estrogenic agents are administered intermittently than when there is continuous administration of these substances.

The book is adequately illustrated. It is somewhat difficult to read because of the frequent use of unusual terms such as "tumoral seed," "the mosaic of territories," "desensibilization." "conjunctive membrane," but most of these terms are clarified in the text. There are a number of minor typographical errors and ungrammatical expressions but these do not destroy the meaning of the affected passages.

The author does not intend that his book should be used to direct the use of steroid hormones in clinical medicine, but rather that it should serve as a source of information for students of cancer and the manifestations of steroid hormone administration.

AMUSING QUOTATIONS FOR DOCTORS AND PATIENTS. Edited by Noah D. Fabricant, M.D. Grune and Stratton, Inc., New York, 1950. $3.00.

This amusing book, with short quotations, one to five lines long, seems to be enjoyable by patients and doctors alike, especially if they are in the hospital. There is nothing profound about the book nor does it contain any illustrations, yet it should bring a chuckle every now and then.

* * *

THE OTHER SIDE OF THE BOTTLE. By Dwight Anderson. A. A. Wyn, Inc., New York, 1950. $3.00.

This account by an ex-alcoholic is intended for the alcoholic and those interested in his care. It can, however, be read to advantage by the physician, to whose lot frequently falls the unhappy task of prescribing treatment for this condition. It outlines the facilities at present available for the treatment of alcoholism, and describes the agencies interested in the problem.

The author recounts, with relish, case histories from his own experience and that of others. He has no special plea for any form of therapy, but presents them all in an impartial manner. One gets the impression that, in spite of relating his own cure to the efforts of a psychiatrist, he evaluates the effect of faith, and such agencies as Alcoholics Anonymous, rather more favorably. In this the reviewer must agree with him.

It is doubtful if the book would be of great value to the alcoholic. It is, however, profitable reading for those responsible for the care of an alcoholic, and this includes family, friends, and physician.

* * *

WILLIAM WITHERING OF BIRMINGHAM, M.D., F.R.S., F.L.S. By T. Whitmore Peck, M.P.S., and K. Douglas Wilkinson, O.B.E., M.D., F.R.C.P., The Williams and Wilkins Co., 1950. $4.50.

According to the preface, this splendid little book was written by Professor K. Douglas Wilkinson, successor to William Withering as an Honorary Physician at the General Hospital, Birmingham. This is clearly a labor of love by one well versed in the life and times of a very great figure in British medicine.

In these days of standardized medical and pre-medical education, one point bears emphasis. Withering, among other accomplishments, was a botanist; his "Botanical Arrangement of all the Vegetables naturally growing in Great Britain" (1776) was the first comprehensive English work based on the botanical system devised by Linnaeus forty years earlier. The famous and secret "family receipt" concerning which his opinion was asked in 1775 "was composed of twenty or more different herbs; but it was not very difficult for one conversant in these subjects to perceive, that the active herb could be no other than the Foxglove." This was clearly no accidental discovery, but the work of a prepared mind, that caused the studies which produced "An Account of the Foxglove" in 1785.

The biography further tells of Withering's lucrative practice, his studies in scarlet fever and ability as a clinician, his disputes with the grandfather of Charles Darwin, his interests in chemistry and mineralogy, and membership (together with such men as James Watt, Josiah Wedgwood and the Galtons) in the Birmingham Lunar Society, a group meeting at each full moon in order to discuss topics of literature, art, and science. Birmingham itself is described interestingly. After a discussion of Withering's fatal illness (he died at 58 of tuberculosis) the book closes with appendices devoted to genealogy.

Attractively published, the volume is well illustrated and contains many letters written by Withering. It is recommended highly.

HEARING TESTS AND HEARING INSTRUMENTS. By Leland A. Watson and Thomas Tolan, M.D., The Williams and Wilkins Company, Baltimore, Md., 1949. $7.00.

There is real need for a book that assembles in one place the latest information on the subjects of this title. It is unfortunate that this, the only one available, so strongly features the products of one manufacturer. There are adequate discussions of audiometric technique and interpretation, the "recruitment" phenomenon, speech hearing tests and the Social Adequacy Index. The optimum characteristics to be aimed for in the design of hearing aids as recommended in the Harvard-Davis report are mentioned. There is much that is fairly complex and "scientific" and also much that suggests a sales pamphlet for the hard of hearing layman. Nevertheless, there is a place for this volume in every otologist's library. The index is satisfactory, but the reviewer can see little merit in the system invented for reference to the extensive bibliography.

* * *

SEROLOGY WITH LIPID ANTIGEN — With Special Reference to Kahn and Universal Reactions. By Reuben L. Kahn, M.S., D.Sc., Associate Professor in Department of Dermatology and Syphilology, University of Michigan Medical School. The Williams and Wilkins Company, Baltimore, 1950. $6.00.

This book approaches the question of the serologic tests from an unusual and interesting point of view. Positive reactions between blood serum and lipid antigens are shown to occur in normal individuals and only under carefully regulated conditions do they become diagnostic of syphilis.

The first and last sections of the book are devoted to a discussion of the "Universal Serologic Reaction." The procedure to which this term is applied was devised by Kahn and consists of a series of quantitative Kahn tests set up in ten different concentrations of sodium chloride from 0 to 2.1 per cent and with serum dilutions ranging from 1 to 640. The results are read immediately and after 4 and 24 hours of ice box incubation.

In the lower and higher salt concentrations, some flocculation always occurs, particularly at the 4- and 24-hour readings. The standard quantitative Kahn test with 0.9 per cent saline is near the middle of the battery of tests and is usually completely negative in normal people. However, there is a considerable degree of variation, and some normals show precipitation zones that approach very close to the 0.9 per cent column, from either the low or the high salt concentrations, and a few actually reach it. These, of course, would give biologic false positive reactions in the standard Kahn test for syphilis.

There are some differences in the patterns of flocculation in the Universal reaction that may help to differentiate between syphilis and yaws. In leprosy, flocculation occurs in all salt concentrations but the pattern is different from that seen in syphilis. In tuberculosis and malaria flocculation occurs in a manner that Kahn thinks is distinctive enough to be of value in diagnosis or the estimation of activity. However, some of the examples presented resemble some of the normals so closely that the usefulness of the Universal reaction in these diseases is dubious.

The technique of the Kahn test and its application in the diagnosis of syphilis are discussed in detail. The importance of keeping any test that is used in clinical diagnosis, insensitive enough to avoid false positives, even at the expense of a considerable loss of sensitivity, is emphasized.

It is refreshing to read a book on serology written by a serologist who is so thoroughly aware of the non-specificity of the lipid antigen tests and who appreciates the great injury that is done to people in whom an erroneous diagnosis of syphilis is made because of a false positive reaction.

MEDICAL JURISPRUDENCE

Physicians — Res Ipsa Loquitur — Brief History Application in General

Peart, Baraty & Hassard of the California Bar

Some mention has been made in past articles of the doctrine of *res ipsa loquitur* (the thing speaks for itself), but it might be well, at this time, to explain what the doctrine is with its various ramifications and how it is applied to the practice of medicine.

The doctrine is not restricted to the medical field but is applied to all negligence cases. The doctrine was expounded in several early English cases, one of the leading ones being a case in 1863. The plaintiff, while walking on a public street, was injured when a barrel of flour fell upon him from a window above. The court held that the doctrine was applicable.[1]

However, as applied to the medical field it is only in recent years that the doctrine has gained prominence. From the fall of the barrel of flour the doctrine has worked its way into the operating room and other fields of the medical profession.

In a given fact situation, the following elements are necessary in order to have the doctrine apply:

a. The thing that causes injury must be under the management and control of the defendant (the barrel of flour was under the management and control of defendant);

b. The accident must be of a type that does not ordinarily happen without negligence (a barrel of flour usually doesn't fall out of upper story windows);

c. It must not be due to any voluntary action or contribution on the part of the plaintiff (plaintiff in the flour case was merely walking along the street).

What is the legal effect of the doctrine? If the doctrine can be applied to a specific set of facts, it establishes what is known in the law as "a prima facie case." This does not mean that the defendant is absolutely liable but that the burden is cast upon the defendant to explain how the injury occurred and if he fails to show that it was not caused by his negligence, it must be accepted as an established fact that the injury was due to a want of proper care upon his part. This will subject him to liability for negligence without any further evidence being introduced. It relieves the plaintiff of the burden of showing what specific act of negligence caused the accident as is required in an ordinary negligence case where the doctrine cannot be applied.

The reason for the rule is that ordinarily the one injured is not in a position to know more than that he was injured by some unusual movement of the instrumentality, whereas the one who operates the instrumentality should be in a better position to know and to explain the precise cause of the accident. Along the same lines, the Supreme Court of California in a 1945 case said when applying the doctrine to a case involving a physician: "Without the aid of the doctrine, a patient who received . . . injuries . . . obviously the result of someone's negligence, would be entirely unable to recover unless the doctors and nurses in attendance voluntarily chose to disclose the identity of the negligent person and the facts establishing liability."[2]

The California courts have in a number of malpractice cases applied the doctrine so that in a particular fact situation there is a presumption of negligence raised and it is up to the physician or surgeon to show that he exercised due care. For instance, where a sponge is left in the incision, it has been held that the burden was upon the doctor to show that it was not a result of negligence.[3] Likewise where a child was placed under an anesthestic preparatory to an operation for the removal of tonsils, and for no apparent reason the bone in the superior maxillary was fractured in front and a tooth pulled or forced from the socket, it was held that the doctrine applied.[4] In a 1937 case the District Court of Appeals of California held that the doctrine was applicable where plaintiff was burned while under the influence of opiates.[5]

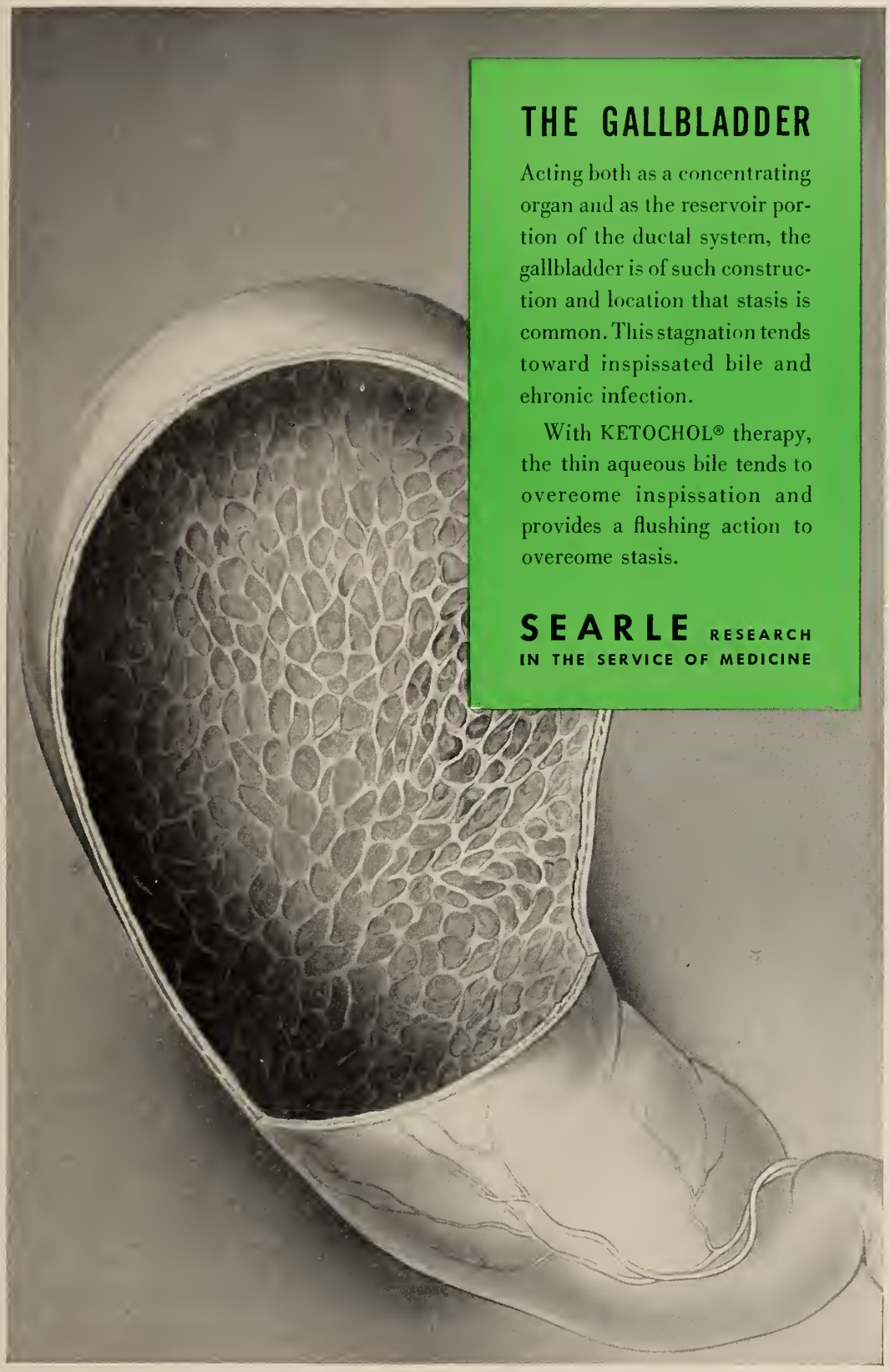
The Supreme Court of California, in a 1945 case, held that the doctrine applies where a patient while unconscious on an operating table receives injuries to a healthy part of his body not subject to treatment or within the area covered by the operation from instrumentalities used in his treatment.[2]

The doctrine has also been applied in connection with certain x-ray cases. Thus it has been said that where a dangerous instrumentality is in the possession of a party, the proper and skillful use of which would result in no injury, and where an injury follows the use of the same, negligence on the part of the person having charge thereof may be inferred.[7]

From the above cases, it may be observed that the doctrine of *res ipsa loquitur* has progressed considerably from the barrel of flour case to modern day application. It is uncertain as to the extent the doctrine may be invoked in cases of injury from medical treatment—an uncertainty which has been intimated by the courts. However, for physicians and surgeons it certainly is a doctrine worthy of notice.

REFERENCES

1. Byrne v. Boadle (1863) 2 H&C 721.
2. Ybarra v. Spangard, 25 C (2nd) 486.
3. Key v. Caldwell, 39 CA (2nd) 698.
4. Brown v. Shortlidge, 98 CA 352.
5. McCullogh v. Langer, 23 CA (2nd) 510.
6. Ragin v. Zimmerman, 206 C 723.


THE GALLBLADDER
Acting both as a concentrating organ and as the reservoir portion of the ductal system, the gallbladder is of such construction and location that stasis is common. This stagnation tends toward inspissated bile and chronic infection.
With KETOCHOL® therapy, the thin aqueous bile tends to overcome inspissation and provides a flushing action to overcome stasis.
SEARLE RESEARCH
IN THE SERVICE OF MEDICINE

REPORT POSSIBLE HARDENING OF ARTERIES FROM CORTISONE, ACTH

The possibility that hardening of the arteries will result when cortisone and ACTH are administered to patients over a prolonged period of time is brought forth by three doctors associated with Mount Sinai Hospital, N. Y., who are studying the side-effects of the newly discovered drugs.

"The factor of prolonged therapy assumes a particular importance," said Drs. David Adlersberg, Louis Schaefer and Stanley R. Drachman, "because of the increased availability of these drugs. It may be expected that many patients with chronic diseases will now receive long courses of cortisone and ACTH therapy."

Writing in a recent issue of the *Journal of the American Medical Association*, the doctors report that in 36 per cent (17 instances) of the 47 courses of the drugs administered, cholesterol (a fat-like substance in the body) was elevated to excessive levels. This condition is called hypercholesteremia.

This is of extreme importance because medical researchers believe that a definite relationship exists between hypercholesteremia and hardening of the arteries.

The doctors further observed that the longer the treatment and the larger the dosage the more pronounced the condition (hypercholesteremia) became.

THE NEW YORK POLYCLINIC

MEDICAL SCHOOL AND HOSPITAL

(Organized 1881)

(The Pioneer Post-Graduate Medical Institution in America)

SYMPOSIUM ON OTOLARYNGOLOGY — OPHTHALMOLOGY

Five Days—April 16-20, 1951

A review of recent advances in the diagnosis and treatment of the more common disorders in the fields of Otolaryngology and Ophthalmology, comprising lectures, motion pictures and demonstrations in the clinics, operating rooms and dissecting room. Guest speakers and members of our staff will participate. Fee, $50.00. Limited class.

For Information Address: THE DEAN, 345 West 50th Street, New York 19, N. Y.

NEWS FROM A.M.A. WASHINGTON OFFICE

Pharmaceutical Association May Go to Court to Stop Prescription Code Changes. If *American Pharmaceutical Association* is not satisfied with the revised draft of new U. S. prescription regulations, it has threatened *court action* to enjoin Federal Security Agency from putting the new rules into effect. As now proposed, the revision would allow pharmacists to refill prescriptions containing "*over-the-counter*" drugs without either oral or written instructions from the physician. There would be no change in the strict regulations governing issuance of so-called *potent or prescription drugs.* A.Ph.A. had asked for open hearings where the whole question of refills could be taken up, and is not pleased with the procedure under which FSA has proposed a change without a hearing. FSA announced it will hold up effective date of the new regulation for 30 days in which time it will consider any written comments or objections. The Durham-Humphrey bill (H.R. 8904 and S. 3852), which would revise the prescription regulations, probably will not be acted upon in this session. It would go one step beyond the proposed regulation by allowing pharmacists to issue "*prescription legend*" drugs on the physician's telephone order, if he agrees to confirm the prescription within 72 hours. Also, it would more clearly distinguish between those drugs which must bear the prescription legend and "over-the-counter" drugs. "Telephone prescriptions" for *narcotics* would not be permitted.

The Colfax Hospital for the Tuberculous

(Formerly a Unit of the Colfax School for the Tuberculous)

Colfax, California

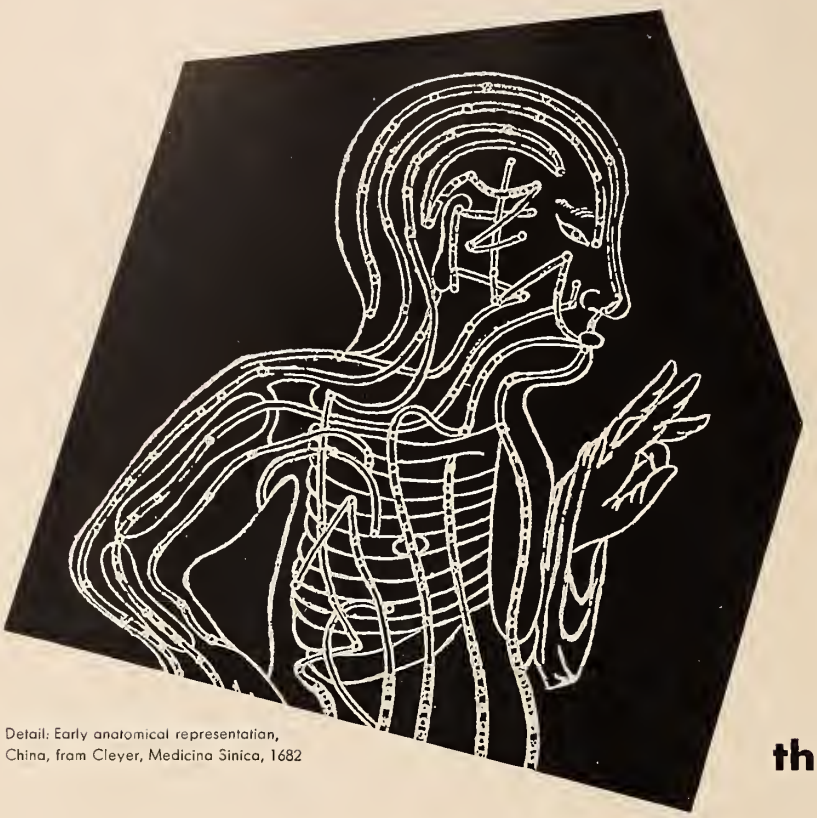
For the Treatment of Pulmonary Tuberculosis

Vernon W. Padgett, M.D.
Medical Director
Colfax, California

Robert A. Peers, M.D., F.A.C.P.
Consultant
Colfax, California

Emile F. Holman, M.D., F.A.C.S.
Thoracic Surgeon
Stanford Hospital

Refresh...add zest to the hour



Detail: Early anatomical representation,
China, from Cleyer, Medicina Sinica, 1682

Which specialty does NOT use thyroid?

There is one—pathology—but it is difficult to name any other medical field in which thyroid is not prescribed at some time. While specific indications vary, all physicians agree that a standard stable preparation is desirable. 'Tabloid' brand Thyroid U. S. P. is such a preparation. As pioneers in the development of standardized thyroid medication, Burroughs Wellcome & Co. continues to provide a thyroid preparation of constant potency.

THYROID, 'B. W. & CO.'®

IN FOUR USEFUL STRENGTHS:

gr. ½ gr. 1 gr. 2 gr. 5

BURROUGHS WELLCOME & CO. (U.S.A.) INC., TUCKAHOE 7, NEW YORK

Veratrite®

In Mild and Moderate Hypertension, a marked sense of well-being is provided by the routine administration of Tabules Veratrite. Pronounced relief of headache, dizziness, fatigue and nervous irritability is accompanied with a reduction in blood pressure. Veratrite lessens peripheral resistance without compromise of circulation.

Supplied: Bottles of 100, 500, 1000.

LITERATURE AND SAMPLES ON REQUEST

IRWIN, NEISLER & CO. **DECATUR, ILLINOIS**

BIRTCHER

BLENDTOME

Portable

Electrosurgical Unit

. . . a MODERN LOW-COST SURGICAL UNIT for all minor and various major surgery.

The Birtcher BLENDTOME is a surprisingly practical unit for office surgery. With this lightweight unit, you have *all* the electrosurgical procedures of major units—electro excision, desiccation, fulguration and coagulation. While not meant to be compared to a large hospital unit, the BLENDTOME has been successfully used in many TUR cases. Such facility indicates the brilliant performance of the BLENDTOME.

ALL 4 BASIC SURGICAL CURRENTS

1. *Tube Generoted Cutting Current.*
2. *Spork-Gap Generoted Coagulation Current.*
3. *A controlled mixed blend of both obove currents on selection.*
4. *Mono-polar Oudin Desiccotion-Fulguration Current.*

Never before has a surgical unit of such performonce been offered ot the low price of the Blendtome.

Write "Blendtome Folder" on your prescription blank or clip your letter head to this advertisement. Reprint of electrosurgical technic mailed free on request. Please indicate your specialty.

THE BIRTCHER CORPORATION
5087 Huntington Drive Los Angeles 32, Calif.

To: The BIRTCHER Corp., Dept. CM 2-51
5087 Huntington Dr., Los Angeles 32, Calif.

Please send me, by return mail, free brochure on the portable Blendtome Electrosurgical Unit.

Dr._____

Street_____

City_____State_____

INCREASE TO BE SOUGHT IN HOSPITAL CONSTRUCTION AUTHORIZATIONS

Analysis of U. S. Financial Commitments Since Start of Program

Note: Following adjournment of Congress, the Budget Bureau, carrying out a Congressional economy directive, reduced authorizations for the hospital construction program (Hill-Burton) from $150,000,000 to $75,000,000 for the current fiscal year. Congress will be urged to make a deficiency authorization, either at the special session this month or after the first of the year. Hospital officials are not optimistic. In answer to a number of inquiries, we prepared the following analysis, based on latest information available in Washington.

How Much Will the Reduction Retard Hospital Construction? Some reduction in planning is essential, but not necessarily 50 per cent because authorizations may be used any time over a two-year period. Furthermore, Congress can vote more money at any time. No construction now under way or finally authorized (Part Four of contract) would be interrupted. However, some projects carrying tentative approval (Part One) would be reduced or postponed, as well as others in planning and fund-raising stages. Although federal officials have asked states to survey the situation, state hospital agencies, which make allocations, also would make the actual reductions. The essential point is that planning would be interfered with, but not construction which is under way or has been accepted by U. S. as an obligation. Some officials familiar with the program believe the reduction could serve at least one useful purpose. While not approving the cut, they believe that now state agency staffs will have an opportunity to review their programs realistically. Also to be considered is the fact that all hospitals are having difficulty in obtaining and maintaining staffs.

How Will State Programs Be Affected? Money is made available to states on the basis of per capita income and population, with poorer states getting more proportionately. States which have made local commitments beyond these quotas would have to cut back. Three states, for example, have tentatively allotted more than a million dollars in excess of their quotas under reduced authorizations, but would have been in the black if Budget Bureau had not cut off the $75,000,000. Now they will have to hold up some of these plans until their authorizations are increased. Some states not "in the red" also will have to curtail, but less drastically. U. S. has set reduced state quotas but the states themselves must determine where to cut within the states.

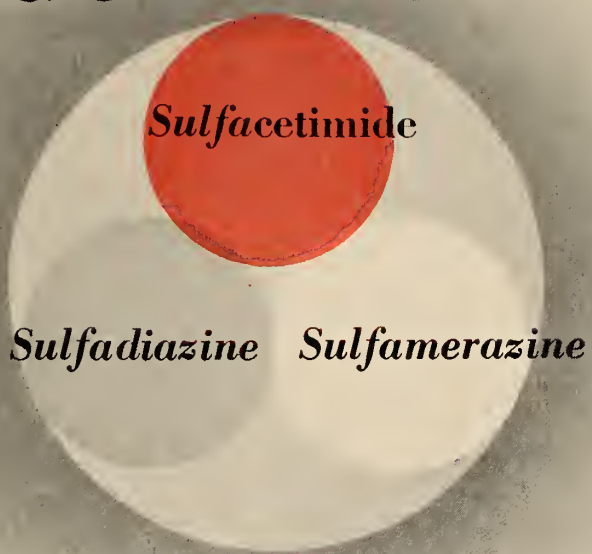
How Much Money Has Congress Authorized for the Program? Three hundred and seventy-five million dollars. Seventy-five million was authorized for fiscal 1948 and a like amount for fiscal 1949. This was increased to $150,000,000 for fiscal 1950 and 1951 (current year) but as noted above the Budget Bureau reduced the latter figure to $75,000,000. Each authorization may be used over two years, because of the time factor in planning and constructing. The result is that parts of two authorizations are available any one time.

How Much Money Is U. S. Definitely Committed

(Continued on Page 60)

ulfonamide Mixture Therapy At Its Best

TRICOMBISUL



For greater clinical safety plus the advantages of more rapid absorption, better tissue distribution and faster therapeutic effect.

TRICOMBISUL Tablets, 0.5 Gm. total sulfonamides, each tablet containing 0.166 Gm. of sulfa*cetimide*, sulfadiazine and sulfamerazine.

TRICOMBISUL Liquid, 0.5 Gm. total sulfonamides (0.166 Gm. each of sulfa*cetimide* [solubilized], sulfadiazine and sulfamerazine) per teaspoonful (4 cc.).

*T.M.

Schering CORPORATION · BLOOMFIELD, NEW JERSEY

TRICOMBISUL

SCHERING

INCREASE TO BE SOUGHT IN HOSPITAL CONSTRUCTION AUTHORIZATIONS

Analysis of U. S. Financial Commitments Since Start of Program

(Continued from Page 56)

to Spend Under This Program? From the start of the program and up to September 1 (latest figures available) U. S. had given final and binding approval to 1,091 projects, where the federal share totaled $261,000,000.

How Much Money Has U. S. Actually Paid for Construction? Payments through September totaled $91,430,872. It is estimated that total payments by the end of the current fiscal year will be close to $250,000,000, a binding obligation for which Congress has or will make appropriations.

What Do U. S. Tentative Commitments Total? "Part One" of the application, or the tentative approval, is subject to some difference of opinion. This essentially is a declaration by the Surgeon General that a project appears to warrant a grant, and that it is his intention to make the grant providing sponsors carry out their part of the agreement and providing funds are available. Because of the 50 per cent cut in authorizations, U. S. now will not have money for all such projects. Sponsors of some projects feel the federal government is "letting them down" if it fails to carry through. The

(Continued on Page 66)

COMPTON SANITARIUM

820 West Compton Blvd. Compton, California
NEvada 6-1185

High Standards of Psychiatric Treatment

Las Campanas Hospital
under same Medical Direction

Approved by American College of Surgeons

Philip J. Cunnane, M.D.
Director

G. Creswell Burns, M.D.
Medical Director
Helen Rislaw Burns, M.D.
Assistant Medical Director

Established in 1915

TRAINED TO MEET YOUR REQUIREMENTS

Lawton School graduates are thoroughly trained to assume full charge of your office . . . handle your bookkeeping . . . take your medical dictation, and tactfully interview your patients.

Lawton graduates are fully qualified to make a routine urinalysis, take blood counts, run basal metabolism tests, take and develop x-ray films and be accountable for all medical assistant duties and responsibilities.

There will be a group of trained MEDICAL ASSISTANTS available as of March 1951. For full information please call our Placement Director.

If you prefer we will train your present secretary to your specifications. Day programs only. Write for Catalog.

M. MURRAY LAWTON, M.D., Director

Lawton School

Founded 1938

8475 Beverly Boulevard
WEbster 3-1518

Los Angeles 48, Calif.
WEbster 3-5949

IN ATHEROSCLEROSIS

a more favorable prognosis usually follows the use of . . .

LIPO-B

an orally effective lipotropic compound

FORMULA: Six tablets daily provide—

Choline Dihydrogen Citrate	1,800 mg.
Inositol	900 mg.
Pyridoxine HCl	12 mg.
Niacinamide	120 mg.
Riboflavin	24 mg.
Thiamine HCl	12 mg.
Calcium Pantothenate	12 mg.

DOSAGE: Two to six tablets daily.

SUPPLIED: Bottles of 100 and 1,000 specially coated tablets.

Literature and Samples on Request

Indicated in the management of EXCESSIVE BLOOD CHOLESTEROL

UNITED LABORATORIES, LTD.

PASADENA • Established 1917 • CALIFORNIA

for the pain that *wasn't* there following Pabalate therapy in arthritis.

Para-aminobenzoic acid 0.3 Gm. (5 gr.), plus sodium salicylate 0.3 Gm. (5 gr.) provide *higher* salicylate blood levels on *lower* salicylate dosage — with *more prolonged* clinical relief, and *reduced* side-effects.

Pabalate®

is a product of A. H. ROBINS CO., INC.
RICHMOND 20, VA.
Ethical Pharmaceuticals of Merit since 1878

Robins

INCREASE TO BE SOUGHT IN HOSPITAL CONSTRUCTION AUTHORIZATIONS

Analysis of U. S. Financial Commitments Since Start of Program

(Continued from Page 60)

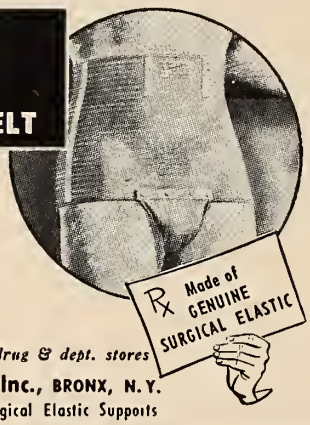
Surgeon General has given tentative but not final approval to $114,000,000 projects. This represents approximately the remainder of the $375,000,000 total authorization. In other words, the federal government has pledged itself up to its authorized limit, when both type of commitment are included. For operational purposes, the situation isn't quite as tight as it seems. A substantial portion of the $375,000,000 total authorization is charged against obligations — contractors' bills, etc. — for future years. As a result many state hospital agencies which might appear to be broke actually have allotments available to apply to projects. On November 1 the total figure for all such state accounts was $30,000,000 but because of current program changes this figure fluctuates rapidly.

Where Are Hospitals Being Located? Smaller towns are getting more hospitals, but bigger towns and cities more money. Specifically, 65 per cent of the general hospital projects are in communities of less than 10,000 population, but these get less than 45 per cent of the money.

Do Large or Small Hospitals Predominate? Here again the statistics might be misleading. About 43 per cent of all general hospital projects under the program are of 50 beds or smaller, but bigger hos-

(Continued on Page 67)

"Bul" 78
Durililknit
SUPPORTER BELT



Recommended by physicians and surgeons—and worn by millians as post-aperative and sacroiliac aid and as general suppart. Super pawered surgical elastic construction provides positive support.

At reliable surgical appliance, drug & dept. stores

JOHN B. FLAHERTY CO., Inc., BRONX, N.Y.
Since 1898, Manufacturers of Surgical Elastic Supports

Space For Lease

NOW UNDER CONSTRUCTION

NEW MEDICAL BLDG.

SAN RAFAEL • MARIN COUNTY

Occupancy About March 30, 1951

PARKING FACILITIES • 20 SUITES

For information write or phone

MARIN MEDICAL BUILDING, INC.
70 Eddy St., San Francisco 2, Cal.
Day Phone: YUkon 6-1282
Evenings: San Rafael 2700-R or 1290

Plan to Attend the

80th ANNUAL SESSION

CALIFORNIA MEDICAL ASSOCIATION

MAY 13-16, 1951

LOS ANGELES **BILTMORE HOTEL**

INCREASE TO BE SOUGHT IN HOSPITAL CONSTRUCTION AUTHORIZATIONS

Analysis of U. S. Financial Commitments Since Start of Program

(Continued from Page 66)

pitals are receiving 80 per cent of the money. At the start of the program, all areas of the country were graded as to availability of hospital beds. For mechanical reasons this survey has not been kept up nationally, although individual state agencies still try to apply a system of priorities in recommending grants.

Why Isn't More Money Going to Smaller Towns? Mainly because residents either don't want to sponsor hospitals or can't demonstrate they would be able to maintain them once built. To help hospital-shortage areas to overcome their difficulties, one experimental approach is under way in Mississippi and another is being discussed in the state of Washington. In Mississippi, half a dozen communities are building public health centers in which space and equipment is made available to doctors on a rental basis. In the state of Washington, hospital officials are looking into the possibility of inducing large hospitals to sponsor similar "outpost departments" to be built under federal grants but administered by the hospitals.

According to Dr. John Cronin, director of the Hospital Construction program, the country has only about half enough beds.—JOSEPH S. LAWRENCE, M.D., Director, Washington Office, A.M.A.

THE CALIFORNIA SANATORIUM

Fully equipped for the diagnosis and modern treatment of diseases of the chest, including tuberculosis and other respiratory diseases

BELMONT, CALIFORNIA

Telephone: LYtell 3-2171

San Francisco Office:
536 Mason Street
Phone DOuglas 2-5793

THOMAS B. WIPER, M.D.
Director and Consultant in Thoracic Surgery

ALLEN A. LILIENTHAL
W. N. TORRE, M.D.
Resident Clinicians

In bronchial asthma . . . paroxysmal dyspnea of cardiac origin . . . Cheyne-Stokes respiration . . .

Glytheonate (PATCH)
BRAND OF THEOPHYLLINE SODIUM GLYCINATE

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

Glytheonate (PATCH)
has the advantage of being more stable in air and less irritating to the gastric mucosa and "is thus tolerated in larger oral doses than are possible with other theophylline preparations, and it can be administered by mouth in liquid form as well as in tablets not enteric coated."*

Glytheonate (PATCH)

- relaxes the bronchioles and relieves bronchial spasm.
- acts as diuretic in congestive heart failure.
- stimulates the psychic areas and respiratory, vasomotor and vagus centers.
- stimulates the myocardium.

SUPPOSITORIES GLYTHEONATE: 0.78 Gm.

SYRUP GLYTHEONATE:
473 cc. and 3.78 liter bottles. A syrup containing 65 mg. of theophylline-sodium glycinate in each cc.

TABLETS GLYTHEONATE: 0.324 Gm.

*Council on Pharmacy & Chemistry: New and Nonofficial Remedies, 1950, Philadelphia, J. B. Lippincott Company, 1950, p. 285.

THE E. L. PATCH COMPANY • Stoneham, Mass.

Whether he's a worried tycoon too busy to eat or an anoretic toper or smoker, if the patient is subclinically vitamin deficient, he'll benefit from dietary reform and DAYAMIN capsules. These little vanilla flavored capsules are easy to swallow. One daily as a supplement; two or more for therapeutic use—see formula. In bottles of 30, 100 and 250. Patients who don't like capsules enjoy DAYAMIN Liquid—with the citrus-like flavor and odor. In bottles of 90 cc., 8 fluidounces and 1 pint. Abbott

Prescribe

DAYAMIN®

(ABBOTT'S MULTIPLE VITAMINS)

Each DAYAMIN capsule contains:

Vitamin A	10,000 U.S.P. units
Vitamin D	1,000 U.S.P. units
Thiomine Hydrochloride	5 mg.
Riboflavin	5 mg.
Nicotinamide	25 mg.
Pyridoxine Hydrochloride	1.5 mg.
Pantothenic Acid (as calcium pantothenate)	5 mg.
Ascorbic Acid	100 mg.

How mild can a cigarette be?

● Every day, more and more smokers—and among them many, many doctors—are discovering for themselves just how mild a cigarette can be. They're making their own 30-Day Camel Mildness Tests—smoking Camels regularly for 30 days.

It's a sensible cigarette test. As a doctor, you know there can be no valid conclusion drawn from a one puff comparison—from a trick test that calls for hasty decisions. The Camel 30-Day Test asks you to make a day after day, pack after pack comparison.

If you are not already a Camel smoker, why not try this test? Judge Camel mildness and the rich, full flavor of Camel's choice tobaccos in your own "T-Zone"—the real proving ground for a cigarette. See if the Camel 30-Day Test doesn't give you the most enjoyment you've ever had from smoking!

Make your own 30-Day Camel Mildness Test in your own "T-Zone"— That's T for Throat, T for Taste. See if you don't change to Camels for keeps!

R. J. Reynolds Tobacco Company
Winston-Salem, North Carolina

More People smoke Camels THAN ANY OTHER CIGARETTE!

ACCIDENT · HOSPITAL · SICKNESS

INSURANCE

FOR PHYSICIANS, SURGEONS, DENTISTS EXCLUSIVELY

ALL PREMIUMS COME FROM — PHYSICIANS SURGEONS DENTISTS — ALL CLAIMS GO TO

$ 5,000.00 accidental death	$ 8.00
$25.00 weekly indemnity, accident and sickness	Quarterly
$10,000.00 accidental death	$16.00
$50.00 weekly indemnity, accident and sickness	Quarterly
$15,000.00 accidental death	$24.00
$75.00 weekly indemnity, accident and sickness	Quarterly
$20,000.00 accidental death	$32.00
$100.00 weekly indemnity, accident and sickness	Quarterly

Cost has never exceeded amounts shown

ALSO HOSPITAL EXPENSE FOR MEMBERS' WIVES AND CHILDREN

85c out of each $1.00 gross income used for members' benefits

$4,000,000.00 *Invested Assets* — $17,000,000.00 *Paid for Claims*

$200,000.00 deposited with State of Nebraska for protection of our members

Disability need not be incurred in line of duty—benefits from the beginning day of disability

PHYSICIANS CASUALTY ASSOCIATION
PHYSICIANS HEALTH ASSOCIATION

49 years under the same management

400 First National Bank Bldg., Omaha 2, Nebraska

MENOPAUSAL Check and Balance

TEST-ESTRIN (MARLYN)

a mixture of ESTROGEN plus ANDROGEN

The dual effect of its mixed steroids produces a greater sense of confidence and well-being. Mutually inhibiting effects of the two hormones bring freedom from the commonly seen side effects of estrogens alone.

A *smoother physiological transition* in a vast majority of cases.

for buccal or sub-lingual administration

TEST-ESTRIN TABLETS

Full Strength

A-Estradiol U.S.P.	0.5 mg.
Testosterone Crystalline	2.5 mg.

Half Strength

A-Estradiol U.S.P.	0.25 mg.
Testosterone Crystalline	1.25 mg.

for parenteral administration

TEST-ESTRIN INJECTABLE

Each c.c. contains:

A-Estradiol U.S.P.	1.0 mg.
Testosterone Prop.	10. mg.

In Sesame Oil

Literature on request

MARLYN

MARLYN COMPANY, INC.

309 North Edinburgh, Los Angeles 48, Calif.

CONNECTS LIVER INFLAMMATION TO TATTOOING INFECTION

The belief that hepatitis is being spread by tattooing was advanced today by a doctor associated with the Veterans Administration Hospital, Buffalo, New York.

Writing in a recent issue of the *Journal of the American Medical Association*, Dr. Ballard F. Smith attributed the incidence of that disease among a group of service personnel studied to improper sterilization of the equipment used in tattooing.

Reporting on his study of 26 servicemen under treatment for hepatitis at the Fort Clayton Hospital in the Canal Zone, Dr. Smith said that 18 men (69 per cent) had been tattooed within 49 to 154 days prior to the time symptoms of the disease began to appear.

Of special significance, indicating a possible connection between hepatitis and tattooing, Dr. Smith pointed out, was the fact that 17 of these 18 men had been tattooed at one particular establishment.

As a result of this observation the tattooing techniques were investigated. The reason for Dr. Smith's suspicion that "hepatitis could be transferred from one customer to the next" was brought out in his description of the tattooing procedure used:

"The skin was shaved and washed with alcohol and allowed to dry. Then the stencil of choice was dusted with fingerprint powder and applied to the skin.

"After removal of the stencil the pattern was 'needled in' with from two to four colors. The colors were kept in separate containers. All transfer from the container to the patient was by direct 'dips' of the tattoo needles.

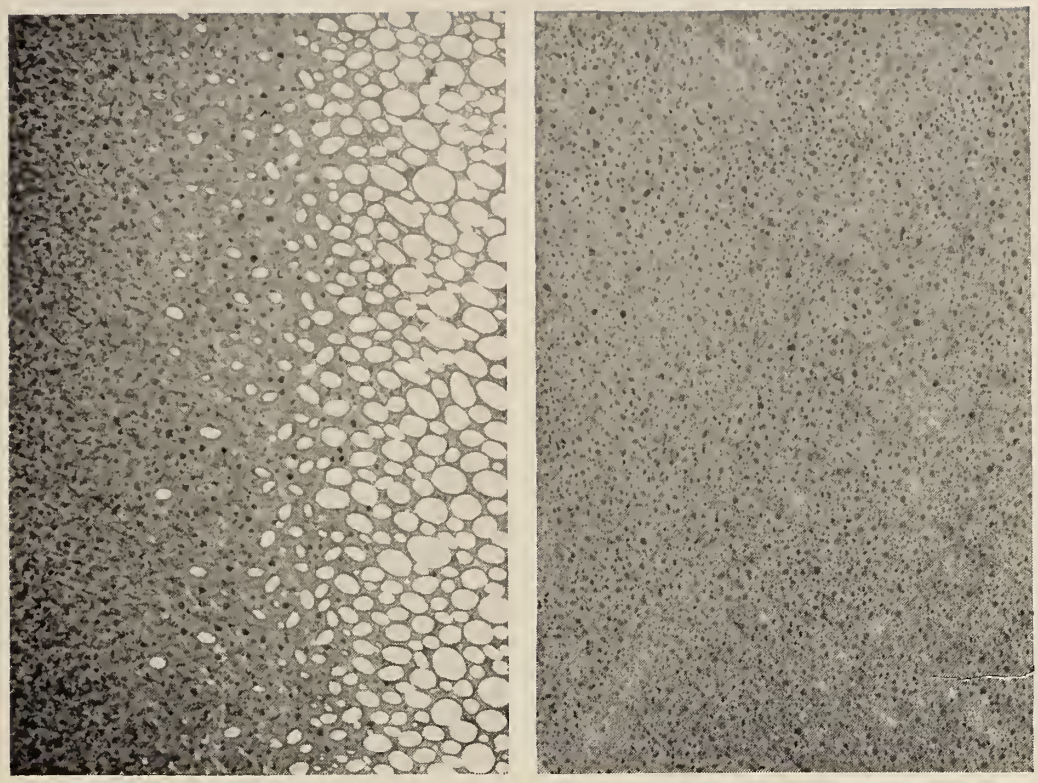
"A tattoo needle consists of a battery of four or five needles in a row, attached to a vibrator. A separate needle battery was used for each color. When the material at the end of the first dip had been used up on the skin, the needle was redipped into the dye container. The process was continued until the pattern was completed.

"Between customers, the needle was wiped with a cotton rag and dipped into a three-ounce alcohol bottle and allowed to dry. When the dye in the working container became depleted more dye was added from the stock bottle. The alcohol bottle likewise was replenished frequently from a larger stock bottle."

Dr. Smith said that the tattooer stated that his work was not satisfactory unless he "drew blood" with the needles. Blood and serum were therefore directly introduced into the dye containers, and it would seem possible that one customer who was a carrier of the hepatitis virus could contaminate all dye containers and the alcohol container as well, the physician added.

As a result of this evidence, certain control measures were put into effect in the Canal Zone area which, according to Dr. Smith, seem "adequate, provided they are religiously followed, to prevent the transfer of serum from one customer to another.

The controls called for the use of individual dye containers, the boiling of containers and needles at least 30 minutes before reuse, and a one-needle battery in place of the four-needle battery.



FATTY DEGENERATION RECOVERY AFTER DIETARY THERAPY

"... under good dietary treatment the acute progressive histologic features of the hepatic parenchymal cell degeneration, even in a severely chronically diseased liver, may disappear within a few weeks."—Volwiler, W.; Jones, C. M., and Mallory, T. B.: Gastroenterology 11:164, 1948

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

for liver damage

The amino acid essential for liver regeneration

MEONINE®

dl-methionine Wyeth

In the dietary management of liver damage due to pregnancy, or to malnutrition, allergy, alcoholism, or chemo-toxic agents.

MEONINE TABLETS: 0.5 Gm., bottles of 100 for oral therapy.

CRYSTALLINE MEONINE: Bottles of 50 Gm. for preparation of intravenous solutions.

Wyeth Incorporated · Philadelphia 2, Pa.

Wyeth®

ASKS DOCTORS' AID IN FIGHTING COMMUNISM

In a guest editorial, appearing in a recent issue of the *Journal of the American Medical Association*, John Edgar Hoover, director of the Federal Bureau of Investigation, asks "the physicians of America, like other citizens," to help protect the nation's internal security.

He asks doctors to report immediately to the FBI "any information of this nature which might come into their possession."

"The FBI," he said, "is not interested in opinions or ideas, idle rumor or malicious gossip—only in facts. Like you, as physicians, we want to know the unvarnished facts of the case. To fulfill our responsibilities, we seek to determine all available facts and then forward them without comment or evaluation to the Department of Justice.

"Americans can defeat the Communist challenge —and in a democratic manner. Witch hunts, hysteria and vigilante actions are repugnant to the democratic tradition. They weaken the majesty of law and provide the Communist agitators with additional talking points. If each person in America would stop and think, learn to 'peel off' the 'outer skin' of Communism, often deceptively painted with glittering promises and glorious utopias, and recognize Communism for what it is—terror and injustice—then America would have no fear.

"The keys of victory must be alertness, eternal vigilance and the maintenance of calmness. A healthy nation, like a healthy body, must receive the unstinting cooperation of all its component parts; if one part fails to carry its share the whole organism is weakened. America, at this critical hour, must remain strong and healthy. This is the task of each and every person."

Food and Drug Amendments Expected. It is now almost certain that the House Select Committee on Chemicals in Foods will recommend changes in the Food, Drug and Cosmetic Act. The only bill submitted so far is one by *C. W. Crawford*, deputy commissioner of food and drugs, FDA, but committee members are expected to have additional ideas.

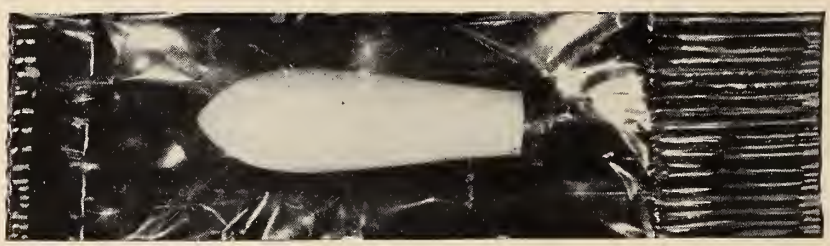
PARK SANITARIUM

A proprietary institution for the care and treatment of alcoholic, addiction, and mental patients.

SINCE 1912

1500 PAGE STREET
SAN FRANCISCO 17

Telephone
MArket 1-4343



NUMOROIDAL SUPPOSITORIES

Soothing the Hemorrhoidal Area... Analgesic, vasoconstrictive medication in contact with the entire hemorrhoidal zone is provided in Numoroidal Suppositories. The special emulsifying base mixes with the secretions to assure coverage of the rectal area.

Convenient: Individually packed. No refrigeration necessary.

Formula: ephedrine hydrochloride 0.22%; benzocaine 5.00%, in a special emulsifying base. Average weight of 1 suppository—1.8 Gm.

Boxes of 12

NUMOTIZINE, Inc., 900 North Franklin Street, Chicago 10, Illinois

can't "SLEEP OFF" *hypertension...*

prolonged vasodilation is as essential at night as during the day. (One more reason why NITRANITOL is the most universally prescribed drug in the management of hypertension.)

NITRANITOL®

FOR GRADUAL, PROLONGED, SAFE VASODILATION

Merrell
1828
CINCINNATI • U.S.A.

When vasodilation alone is indicated. *Nitranitol.* (½ gr. mannitol hexanitrate.)

When sedation is desired. *Nitranitol with Phenobarbital.* (¼ gr. Phenobarbital combined with ½ gr. mannitol hexanitrate.)

For extra protection against hazards of capillary fragility. *Nitranitol with Phenobarbital and Rutin.* (Combines Rutin 20 mg. with above formula.)

When the threat of cardiac failure exists. *Nitranitol with Phenobarbital and Theophylline.* (½ gr. mannitol hexanitrate combined with ¼ gr. Phenobarbital and 1½ grs. Theophylline.)

Let Waiting Patients

READ

TODAY'S HEALTH

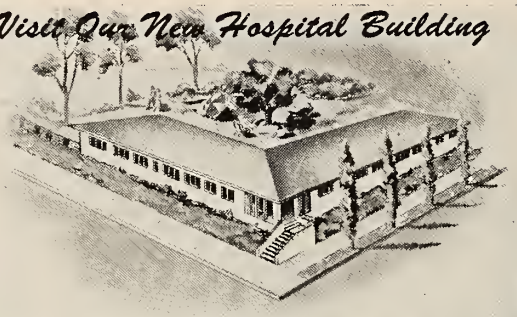
TODAY'S HEALTH is the one source of reliable information for lay people, and is doing an excellent job in educating the public on the important problems of health in a language which can be understood by everyone.

1 year, $3.00
2 years, $5.00

AMERICAN MEDICAL ASSOCIATION

535 N. DEARBORN CHICAGO 10

Visit Our New Hospital Building



Serving the Medical Profession Since 1935

HYGEIA SANATORIUM

Finest, Modern Accommodations for Treatment of Nervous Cases and

ALCOHOLICS

•

Conditioned Reflex Aversion Method
Treatment and Consultation Rooms for Visiting Physicians
Facilities Available for Shock Therapy

•

Recognized by the American Medical Association

2534 BEVERLY BOULEVARD • LOS ANGELES 4, CALIF.
DUnkirk 8-8178

REPORT NEW METHOD TO PREVENT HEMORRHAGE IN HEART SURGERY

A new method for the prevention or control of hemorrhages during heart surgery was reported today by a New York surgeon associated with the New York Medical College, Flower and Fifth Avenue hospitals.

The prevention of hemorrhage from the heart is one of the most important steps necessary for successful heart operation.

Writing in a recent issue of the *Journal of the American Medical Association,* Dr. Samuel A. Thompson told how he created an artificial leakproof valve through which the surgeon could enter the heart without fear of hemorrhage.

This method was perfected through research on dogs and has been used on two human beings.

To create the valve, Dr. Thompson pressed into use a small cone-shaped pocket of the heart called the auricular appendage. This hollow piece of tissue hangs "like a dog's ear" on the outside of the auricle, an upper cavity of the heart. It was ideal for Dr. Thompson's use in making a valve because the tissues of the appendage are thin and pliable.

To produce an actual working valve from this tissue, Dr. Thompson sewed two sets of stitches into the tissue, one near the tip and the other at the opposite end where it joins the auricle. The stitches were sewed in and out like purse strings on a woman's drawstring hand bag. By pulling or releasing the strings, the tube-like valve thus created could be opened or closed at either end. The final bit of preparation was to cut off the tip of the appendage to provide an opening.

During the operation the artificial valve works something like this:

As the operation begins, the upper valve at the top is open and the lower valve nearest the auricle is closed. The surgeon's finger, or instrument, is inserted into the tube-like valve through the top until it touches the lower valve. The first or top set of stitches are then closed tightly around the finger by drawing the purse strings.

The lower valve can then be opened without fear of hemorrhage because there is no outlet since the upper valve is tightly closed around the surgeon's finger.

When the lower valve is released the finger is free to enter the auricle or other parts of the heart. The thin and pliable tissues of the appendage permit freedom of movement.

Removal of the finger (or instrument) is accomplished by the reverse of this procedure. When the operation is finished, the stitches forming the inner valve are pulled tight and securely tied and the remainder of the appendage cut off.

In describing the advantages of this procedure, Dr. Thompson said that it "can be used without haste and repeatedly" in an operation requiring heart examination with the finger, visual examination or surgical intervention.

AN IDEAL B COMPLEX PRESCRIPTION VEHICLE

FOR INFANTS OR ADULTS

An excellent prescription ingredient, White's Multi-Beta Liquid enhances the prescription with substantial amounts of vitamin B factors contained in small unit volume.

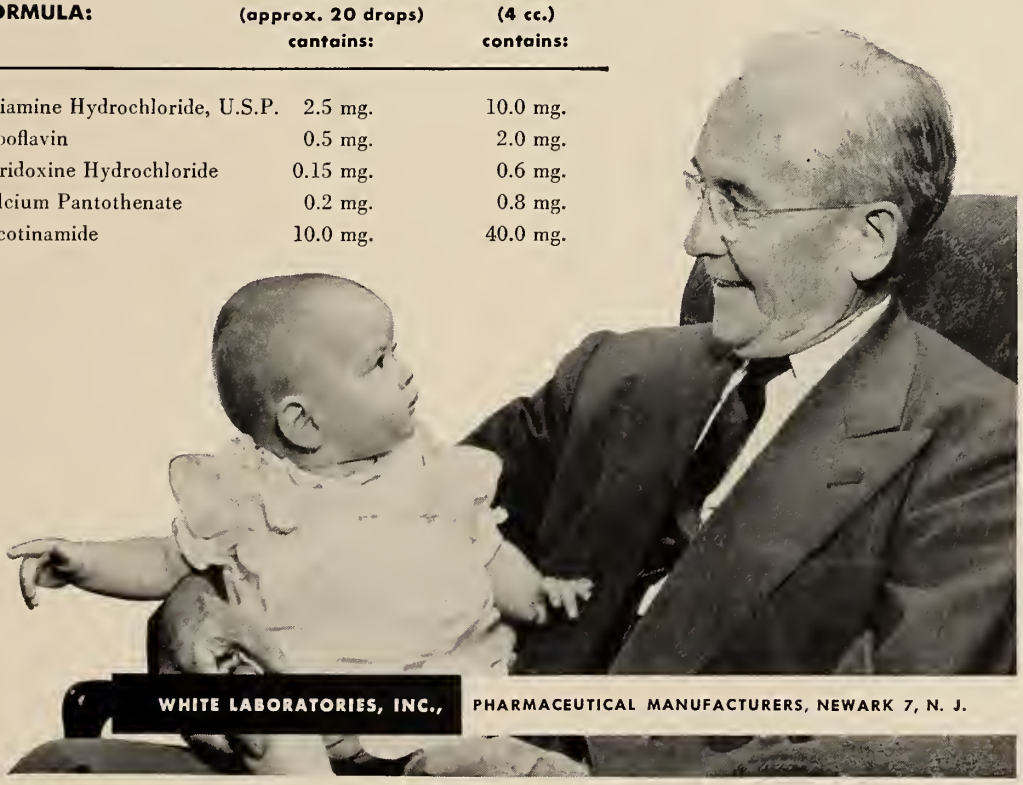
White's Multi-Beta Liquid is compatible with—

Tincture Nux Vomica, equal parts
Elixir Phenobarbital, 1 to 4 parts
Mol-Iron Liquid, 1 to 8 parts

White's MULTI-BETA® LIQUID

PALATABLE . . . NON-ALCOHOLIC . . . STABLE

FORMULA:	each cc. (approx. 20 drops) contains:	each teaspoonful (4 cc.) contains:
Thiamine Hydrochloride, U.S.P.	2.5 mg.	10.0 mg.
Riboflavin	0.5 mg.	2.0 mg.
Pyridoxine Hydrochloride	0.15 mg.	0.6 mg.
Calcium Pantothenate	0.2 mg.	0.8 mg.
Nicotinamide	10.0 mg.	40.0 mg.



WHITE LABORATORIES, INC., PHARMACEUTICAL MANUFACTURERS, NEWARK 7, N. J.

CLASSIFIED ADVERTISING

(Continued from Page 88)

FOR RENT

FOR RENT: New office building completely equipped including x-ray. Unopposed practice. Frank E. Sohler, Jr., M.D., 109 East First Street, Cloverdale, California.

APPARATUS FOR SALE

FOR SALE—4x5 Photo-roentgen unit. Used twenty months in hospital admission survey. Excellent condition. $5,000. Santa Clara County Tuberculosis Association, 211 Balbach Street, San Jose 10, Calif.

FOR SALE: Slightly used Cameron Cauterradio Model O with standard attachments plus full set of monopolar electrodes and full set of bipolar attachments, $95 F.O.B. Modesto, California. Box 30,045, California Medicine.

FOR LEASE

MEDICAL BUILDING OPPORTUNITY—Fifteen offices all on ground floor, side drive, four entrances, only five years old. Best location on North LaCienega. Timely opportunity for a group of doctors to pool their resources in this Medical Building Enterprise. For additional information contact Berghoff Advertising Agency, 915 N. LaCienega, Hollywood 46.

PAPER SPECIALTIES

TIDI PRODUCTS: Highest quality paper specialties for the professional office. TIDI Creped Roll, a very strong white creped sheet in rolls to fit all fixtures. An ideal sheet with stretch for examination and treatment tables. Very strong even when wet. TIDI Smooth Paper Rolls all sizes. TIDI Professional Towels. Distributed by leading Physicians' Supply Houses throughout the west. Manufactured in California. Ask your dealer for TIDI PRODUCTS, 996 East Price Street, Pomona, California.

A REQUEST for CHANGE OF ADDRESS

...must reach us at least three weeks before the date of issue with which it is to take effect. Duplicate copies cannot be sent to replace those undelivered through failure to send such advance notice. With your new address be sure to send us the old one, enclosing, if possible, your address label from a recent copy.

CALIFORNIA MEDICINE
Room 2009
450 Sutter Street San Francisco 8

RESINS IN SHOES, FURNISHINGS ARE BLAMED FOR SKIN DISEASE

Many cases of inflammation of the skin affecting the feet and other parts of the body can be blamed on synthetic resins used in the partial linings of shoes and in other manufactured items, according to a Buffalo dermatologist.

Writing in a recent issue of the *Archives of Dermatology and Syphilology*, published by the American Medical Association, Dr. James W. Jordon said the many instances of dermatitis on the feet and body traced to synthetic resins and their components "make it evident" that these substances are important skin sensitizing agents.

Dr. Jordon is associated with the department of dermatology and syphilology, University of Buffalo School of Medicine.

"Contact with these substances is almost universal," said Dr. Jordon, pointing out that they are widely used in wood finishes, furniture upholstering materials, varnishes and lacquers, steering wheels, handles, musical instruments, toys, games, sporting goods, wearing apparel, accessories and jewelry.

Cases of dermatitis due to direct contact with hair lacquer pads, spectacle frames, garters and wrist watch bands containing these substances are known, said Dr. Jordon, adding:

"It is evident that many obscure cases of dermatitis, in which no clear-cut history of contact [with resins] is elicited, may be due to these compounds."

In order to establish definitely whether or not a case of dermatitis is due to synthetic resins, Dr. Jordon explained, it is necessary to make patch tests with the actual compound to which the skin has been exposed.

"It is not sufficient in suspected resin dermatitis to test the patient to a sample group of basic resins," he said, adding that "there is no one common factor responsible."

He continued:

"Synthetic resins as they are employed are highly complex physical chemical mixtures. They are produced by a large number of manufacturers and there are at least 17 different classes of synthetic resins, each class of which contains many varieties. At least 400 different plasticizers and solvents, as well as colors and other substances, are employed in modifying the properties of the basic resins.

"Further investigation may aid in determining which resins, pigments, and other chemical compounds are harmful and elimination of these may reduce the incidence of resin dermatitis."

Dr. Jordon described his observation of cases affecting the feet in 47 proved instances of resin dermatitis and 29 suspected instances. The suspected cases were those in which complete studies and tests were not made.

He found that inflammation corresponded fairly closely with areas of the skin in actual contact with the substance when the shoe was being worn. The top part of the foot and the toes were most commonly involved with the heels and soles rarely affected.

Of the 47 proved cases, 41 were women who wore shoes in which a quarter to half of the linings were resins. After discarding the offending shoes healing was usually quite prompt, he pointed out.

Introducing

LUBRICOID ACTION *without oil*

IN CONSTIPATION MANAGEMENT

—presents methylcellulose as a gel, with magnesium hydroxide in less than laxative dosage to maintain hydration of the gel by osmosis.

Each tablespoonful contains:

METHYLCELLULOSE	0.3 GM.
MAGNESIUM HYDROXIDE	0.6 GM.

The Turicum formula assures:

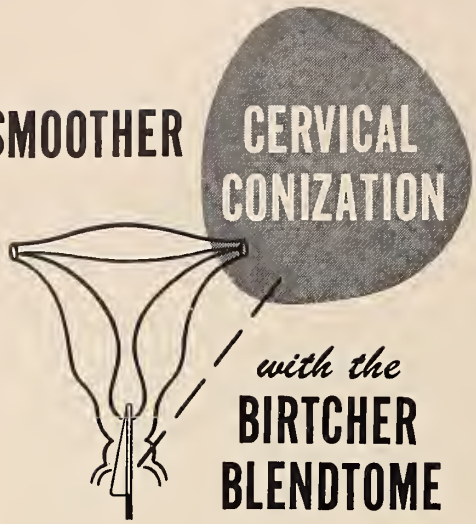
- lubricous bulk to encourage normal evacuation
- good distribution throughout the bowel
- no bloating
- no danger of impaction
- no interference with utilization of oil-soluble vitamins
- no danger of lipid pneumonia
- no leakage

TURICUM IS AVAILABLE IN ONE PINT BOTTLES

TURICUM
TRADE MARK
HYDROPHILIC LUBRICOID

Whittier LABORATORIES

DIVISION NUTRITION RESEARCH LABORATORIES, INC. • CHICAGO 11, ILLINOIS



Frequent necessity of cervical repair suggests the practicality of having a BLENDTOME ELECTROSURGICAL Unit in the office or clinic. With this instrument, the doctor is enabled to do a smoother cervical conization. The BLENDTOME cuts and coagulates simultaneously with a blended current. Scar and other tissue is cut through quickly and easily; blood and lymph vessels are almost instantly sealed. The cleaner field results in reduced trauma and operative shock, smoother convalescence and more rapid healing.

The Birtcher BLENDTOME was *designed* for use in the doctor's office or private clinic. It provides electrosurgery for all but the strictly major cases. There are many everyday uses for the BLENDTOME—any case indicating fast and sure cutting with simultaneous sealing off of blood and lymph vessels.

Consider how much more you would be able to do with the ease, timesaving and effectiveness of a Birtcher BLENDTOME in your own office. Write for literature.

THE BIRTCHER CORPORATION

To: The BIRTCHER Corp., Dept. CM 3-51
5087 Huntington Dr., Los Angeles 32, Calif.

Please send me, by return mail, free brochure on the portable Blendtome Electrosurgical Unit.

Dr._____

Street_____

City_____State_____

DIET PLAYS PART IN NEW TREATMENT OF MENTAL CASES

A highly acid-forming diet is playing a new role in the latest trial treatment of certain mental patients, according to an article in a recent issue of the *Journal of the American Medical Association.*

Dr. Julius I. Steinfeld, owner and medical director of the Forest Sanitarium, Des Plaines, Ill., and author of the article, reports on his work which, "though only a beginning," he feels might possibly "open new avenues of thinking" in the study and treatment of mental conditions.

Dr. Steinfeld's research involves the use of diet to produce an acid condition in the blood and spinal fluid which, he has observed, is found in mental patients following shock treatment. His investigations suggest a connection between this chemical change and the beneficial effects usually obtained by using shock.

As a result of the belief that this shift to an acid condition of the blood constitutes the important factor in shock treatment, Dr. Steinfeld directed his efforts to obtaining a more intense and prolonged acid state in his patients than is obtainable with customary methods.

Dietary methods succeeded where various acidifying drugs failed in producing the desired condition.

Dr. Steinfeld selected four patients for treatment. Three of them had been schizophrenic for four to six years and one for two years. The patients—who had not responded satisfactorily to the customary shock methods or psychotherapy—were put on a rigid diet of fats and proteins for 12 to 14 days. The diet included large amounts of meat, eggs, butter and other fatty foods and excluded entirely carbohydrates such as sugar and starchy foods. This diet through normal chemical action in the body was expected to produce the acid condition in the blood and spinal fluid.

Clinical improvements were noticeable toward the end of the dieting period in all four patients. Two of the patients showed dramatic improvements.

"Electric shock treatment superimposed on such a condition might then produce a still more intense reaction," he said, giving this dramatic example:

"A schizophrenic man, 44, who had had bizarre persecutory ideas for about two to three years and was constantly hallucinating, was irresponsive to electric shock treatments. He showed no clinical reaction to a series of eight treatments consisting of two to three shocks each. He therefore was subjected to a two-week diet combined with three shock treatments of the same type as before. After termination of the combined treatment, he showed insight into the delusional character of his ideas, returned to work and has been doing well since. He has now been observed for four months."

Dr. Steinfeld concludes:

"There is a possibility that the production of acidosis by dietary methods alone would lead to the desired results if such a treatment could be expanded over a sufficient time, probably four to six weeks. One could then spare the patient the superimposed electric shock treatment. However, we observed that two weeks of such a diet is about as much as the patient will accept without resisting.

Intravenous PROCAINE

The least toxic of all local anesthetics

No other local anesthetic has the extensive clinical background in intravenous use.

Therapeutically versatile...
Clinically effective...Widely used

Baxter PROCAINE Solutions
for the relief of pain

Because of its many uses, intravenous procaine has become a dependable therapeutic procedure of established value.

BAXTER PROCAINE SOLUTIONS

are DILUTE solutions...there is SAFETY in dilution

DON BAXTER, INC. · RESEARCH AND PRODUCTION LABORATORIES · GLENDALE 1, CALIFORNIA

NATIONAL DEFENSE

By June, 572 women medical specialists will be needed by Army, doubling the requirements of two months ago. Dietitians are in greatest demand, 247 needed; also 179 physical therapists and 146 occupational therapists. . . . After three days of confusion and conferences between Defense Department and Selective Service on the enlistment of deferred college students, net result was that students may enlist in the service of their choice even if deferred by SS. . . . Advisory committees to SS have been asked to take a hand in deferment of x-ray equipment servicemen and orthopedic and prosthetic technicians, thus taking their first step in behalf of allied specialists not specifically named in the doctor-draft proclamation. If these specialists are under 26 years of age, they are subject to the regular draft and General Hershey and Dr. Howard Rusk agree that state and local committees can act to have them deferred. These technicians are in critical supply, and training periods are about 35 months, eliminating the possibility of speedy replacement. . . . Dr. Peter Emilio Arioli of Berkeley, Calif., was the first Navy doctor killed in Korea; three other Navy medical officers wounded. . . . Federal Trade Commission warns its Division of Medical Opinions: "If lack of proper medical care develops due to a shortage of physicians, it becomes increasingly important that advertisements promoting food, drugs, and curative

(Continued on Page 18)

THE CALIFORNIA SANATORIUM

Fully equipped for the diagnosis and modern treatment of diseases of the chest, including tuberculosis and other respiratory diseases

BELMONT, CALIFORNIA

Telephone: LYtell 3-2171

San Francisco Office:
536 Mason Street
Phone DOuglas 2-5793

THOMAS B. WIPER, M.D.
Director and Consultant in Thoracic Surgery

ALLEN A. LILIENTHAL
W. N. TORRE, M.D.
Resident Clinicians

NUMOROIDAL SUPPOSITORIES

Soothing the Hemorrhoidal Area . . . Analgesic, vasoconstrictive medication in contact with the entire hemorrhoidal zone is provided in Numoroidal Suppositories. The special emulsifying base mixes with the secretions to assure coverage of the rectal area.

Convenient: Individually packed. No refrigeration necessary.

Formula: ephedrine hydrochloride 0.22%; benzocaine 5.00%, in a special emulsifying base. Average weight of 1 suppository—1.8 Gm.

Boxes of 12

NUMOTIZINE, Inc , 900 North Franklin Street, Chicago 10, Illinois

POTENT
EFFECTIVE
PRACTICAL

IN SEVERE, RESISTANT HYPERTENSION

VERTAVIS-PHEN affords the advantage of economy in the everyday management of severe, resistant (Grade III) essential hypertension.

Vertavis-Phen, by virtue of the combined effect of veratrum viride (Irwin-Neisler) and phenobarbital, is a practical approach to the problem of severe, resistant hypertension. The remarkable physiologic property of veratrum viride "in producing a hypotensive effect by peripheral dilatation is pharmacologically sound."[1] Phenobarbital decreases vasoconstrictor arterial tone and permits the use of smaller doses of veratrum viride in obtaining a favorable clinical effect.

1. Holley, H. L., and Koffler, I. A.: Am. Pract. & Dig. Treat. 1:840-844, 1950.

Vertavis®-Phen

IRWIN, NEISLER & COMPANY DECATUR, ILLINOIS

NATIONAL DEFENSE

(Continued from Page 14)

devices convey only truthful statements in order that the public may avoid improper self-treatment and adverse effect on health.". . . Army is cataloging all new Medical Corps officers with respect to their training and experience in research in an effort to assign men with particular qualifications to research assignment rather than to duty with units. Medical Research and Development Board has prepared a questionnaire for newly commissioned officers to fill out. . . . Three civilian physicians have been appointed to two committees which will offer medical consultation to Army. Besides serving as consultants to Army installations here and abroad, these doctors will investigate and report on the availability of specialists in hospitals. However, the committees only go into hospitals upon request of the Surgeon General and cannot act independently. Members are: Dr. Joseph M. Hayman, Jr., specialist in internal medicine, Cleveland; Dr. Alfred R. Shands, orthopedic surgeon, Wilmington, and Dr. John B. Flick, general surgeon, Philadelphia.

Rent an office, buy or sell equipment, find an associate. Read and advertise in CALIFORNIA MEDICINE'S Classified Advertising section.

The Colfax Hospital for the Tuberculous

(Formerly a Unit of the Colfax School for the Tuberculous)

Colfax, California

For the Treatment of Pulmonary Tuberculosis

Vernon W. Padgett, M.D.
Medical Director
Colfax, California

Robert A. Peers, M.D., F.A.C.P.
Consultant
Colfax, California

Emile F. Holman, M.D., F.A.C.S.
Thoracic Surgeon
Stanford Hospital

RALEIGH HILLS SANITARIUM, Inc.

Recognized by the American Medical Association

Member: American Hospital Association

Exclusively for the treatment of

Chronic Alcoholism

by the Conditioned Reflex and Adjuvant Methods

MEDICAL STAFF

Ernest L. Baylen, M.D.
William C. Pantan, M.D.
James G. Perkins, M.D.
John R. Montague, M.D.
Jahn W. Evans, M.D.
Psychiatrist

B. S. P. MILES, Administrator

S. W. Scholls Ferry Road
P. O. Box 366 Portland 7, Oregon
Telephone CHerry 1144

ACCIDENT · HOSPITAL · SICKNESS INSURANCE

FOR PHYSICIANS, SURGEONS, DENTISTS EXCLUSIVELY

ALL PREMIUMS COME FROM — PHYSICIANS SURGEONS DENTISTS — ALL CLAIMS GO TO

$ 5,000.00 accidental death	$ 8.00
$25.00 weekly indemnity, accident and sickness	Quarterly
$10,000.00 accidental death	$16.00
$50.00 weekly indemnity, accident and sickness	Quarterly
$15,000.00 accidental death	$24.00
$75.00 weekly indemnity, accident and sickness	Quarterly
$20,000.00 accidental death	$32.00
$100.00 weekly indemnity, accident and sickness	Quarterly

Cost has never exceeded amounts shown

ALSO HOSPITAL EXPENSE FOR MEMBERS' WIVES AND CHILDREN

85c out of each $1.00 gross income used for members' benefits

$4,000,000.00 *Invested Assets*

$17,000,000.00 *Paid for Claims*

$200,000.00 deposited with State of Nebraska for protection of our members

Disability need not be incurred in line of duty—benefits from the beginning day of disability

PHYSICIANS CASUALTY ASSOCIATION
PHYSICIANS HEALTH ASSOCIATION

49 years under the same management

400 First National Bank Bldg., Omaha 2, Nebraska

antibacterial action plus...

■ **greater solubility**

Gantrisin is a sulfonamide so soluble that there is no danger of renal blocking and no need for alkalinization.

■ **higher blood level**

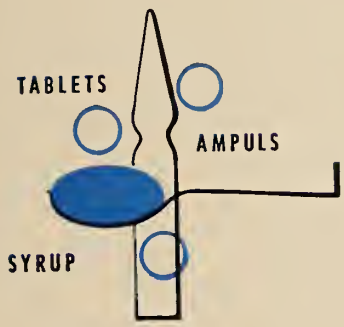
Gantrisin not only produces a higher blood level but also provides a wider antibacterial spectrum.

■ **economy**

Gantrisin is far more economical than antibiotics and triple sulfonamides.

■ **less sensitization**

Gantrisin is a single drug—not a mixture of several sulfonamides—so that there is less likelihood of sensitization.



GANTRISIN®—brand of sulfisoxazole
(3,4-dimethyl-5-sulfanilamido-isoxazole)

HOFFMANN-LA ROCHE INC.

Roche Park • Nutley 10 • New Jersey

ACTH, CORTISONE REDUCE CANCER PAIN BUT DO NOT STOP DISEASE

Evidence gained in a study of far advanced cancer patients by three Chicago doctors indicates that treatment with ACTH and cortisone is helpful in reducing the pain and other complications of the disease but does not materially alter the natural course of the disease.

Drs. Samuel G. Taylor III, John P. Ayer and Roger S. Morris Jr. reported on their study of 26 advanced cancer patients in a recent issue of the *Journal of the American Medical Association*. All three doctors are associated with the Presbyterian Hospital, Chicago.

The report says in part:

"The clinical response of most patients was reduction in fever, if present, increased appetite and improved strength and well-being. At times the effects were dramatic and appeared usually within 48 hours after ACTH therapy and within four to six days after starting treatment with cortisone.

"Patients hitherto bedridden, vomiting and requiring heavy doses of narcotics were able to become ambulatory, reduce or stop their reliance on narcotics, and eat astonishing meals."

According to the report, however, the "improved" condition of the patients was only temporary. The natural course of the disease continued—12 of the patients already have died. In addition, the hormone treatment produced disturbing side effects.

(Continued on Page 26)

COMPTON SANITARIUM

820 West Compton Blvd. Compton, California
NEvada 6-1185

High Standards of Psychiatric Treatment

Las Campanas Hospital
under same Medical Direction

Approved by American College of Surgeons

Philip J. Cunnane, M.D.
Director

G. Creswell Burns, M.D.
Medical Director
Helen Rislow Burns, M.D.
Assistant Medical Director

Established in 1915

APHASIA THERAPY

DONALD A. SCHULTZ, Ph.D.

Formerly Chief, Aphasia Clinic, Birmingham Hospital, Van Nuys

Speech Pathologist • Clinical Psychologist

Stuttering and articulation therapy
for adults and children

HEmpstead 2442 6777 Hollywood Blvd.
Los Angeles 28, Calif.

Fresh Fuel...

UNTIL her physician can observe and treat her symptoms, many a woman, even today, faces the failing fires of the menopause with confusion . . .

Physicians who are no longer satisfied with the limited action of replacement therapy alone, are electing to use a MORE COMPREHENSIVE TREATMENT for menopausal disturbances. Specifically designed for this purpose, Tablet Phen-Orivan, Dorsey provides, in addition to estrogenic substances:

Thyroid to stimulate metabolism and promote a feeling of well being; phenobarbital and hyoscyamus to hasten relief by sedative and antispasmodic action.

EACH TABLET PHEN-ORIVAN, DORSEY CONTAINS:

Phenobarbital	¼ gr.
Thyroid	⅛ gr.
Ext. Hyoscyamus	⅛ gr.
Estrogenic substances from pregnant mares' urine, in their naturally occurring, water-soluble, conjugated form, expressed as sodium estrone sulfate	0.25 mg.

TABLET **PHEN-ORIVAN, Dorsey**

THE SMITH-DORSEY COMPANY, LINCOLN, NEBRASKA • BRANCHES AT LOS ANGELES AND DALLAS

for "This wormy world"

Diphenan

209 MILLION persons act as hosts to Oxyuris (Enterobius) vermicularis according to Stoll's fascinating article "This Wormy World".[1] This undesirable tenancy can be terminated with the aid of 'Tabloid' brand Diphenan, by mouth, for Diphenan is an effective anthelmintic.

Since these worms make no distinction as to age or social status—Diphenan's palatability, safety and economy are important considerations. One quarter wafer t.i.d. for infants up to 18 months; ½ wafer t.i.d. for children up to 10; 1 t.i.d. for older children, and 1 or 2 t.i.d. for adults. 'Tabloid' brand Diphenan is supplied as wintergreen-flavored chewing wafers of 0.5 grams each in bottles of 20 and 100.

BURROUGHS WELLCOME & CO. (U.S.A.) INC., TUCKAHOE 7, N.Y.

1. Stoll, Norman R.: Jrl. of Parasitology 33:1 No. 1 (Feb.) 1947.

ACTH, CORTISONE REDUCE CANCER PAIN BUT DO NOT STOP DISEASE

(Continued from Page 22)

"We have frequently been faced with the problem," the doctors explained, "whether complications produced by continued therapy or relapse from omission caused more distress to the patient."

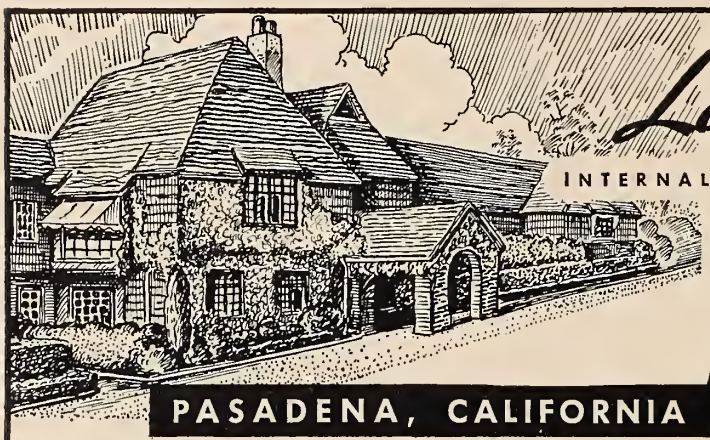
Some of the side effects produced by ACTH and cortisone which, according to the doctors, may make "repeated or prolonged therapy ill advised" were chemical changes in the body, excess sugar in the blood, mental and personality changes, sexual and skin disturbances, development of moon-shaped faces and unnatural fat deposits in different parts of the body.

REFILLING OF PRESCRIPTIONS IS TOPIC OF MEETING

The A.M.A. Council on Pharmacy and Chemistry, holding its annual meeting at A.M.A. headquarters in Chicago recently, discussed various aspects of the Durham-Humphrey bill, a proposed amendment to the Federal Food, Drug and Cosmetic Act, which would prohibit pharmacists from refilling prescriptions for habit-forming and prescription drugs without the authority of the prescribing physicians.

During the morning session representatives of the American Drug Manufacturing Association, the

(Continued on Page 32)



Las Encinas
SANITARIUM
INTERNAL MEDICINE • NERVOUS DISORDERS

MEDICAL STAFF
CHARLES W. THOMPSON, M.D., F.A.C.P.
DIRECTOR
CLIFTON H. BRIGGS, M.D., F.A.C.S.
ASSOCIATE DIRECTOR
ETHEL FANSON, M.D.
DOUGLAS R. DODGE, M.D.
CARLOS F. SACASA, M.D.
HERBERT A. DUNCAN, M.D.
KENNETH P. NASH, M.D.
STEPHEN SMITH, III, M.D.

PASADENA, CALIFORNIA

You are cordially invited when in San Francisco to visit our store.

See our large stock of ready-made uniforms in a wide variety of styles and materials.

Smart New Styles in Full Range of Sizes

COATS • JACKETS
SMOCKS

COTTONS RAYONS NYLONS

For your convenience we maintain a special order department

Established 1910

ANOC QUALITY FIRST A·S·W·GRUNDY

Doctors & Nurses Outfitting Co., Inc.

Men's and Women's Uniforms for all Purposes

1214 Sutter Street San Francisco, Calif.

ORdway 3-8525

COOK COUNTY
Graduate School of Medicine
ANNOUNCES CONTINUOUS COURSES

SURGERY—Intensive Course in Surgical Technic, Two Weeks, starting March 19, April 2, April 16.
Surgical Technic, Surgical Anaromy & Clinical Surgery, Four Weeks, April 2, April 30, June 4.
Surgical Anatomy & Clinical Surgery, Two Weeks, starting March 19, April 16, May 14.
Surgery of Colon & Rectum, One Week, starting April 9, May 14.
Basic Principles in General Surgery, Two Weeks, starting April 2.
Fractures & Traumaric Surgery, Two Weeks, starting June 18.

GYNECOLOGY—Intensive Course, Two Weeks, starting March 19, April 16.
Vaginal Approach to Pelvic Surgery, One Week, starting April 2, May 7.

OBSTETRICS—Intensive Course, Two Weeks, starting April 2, June 4.

MEDICINE—Intensive General Course, Two Weeks, starting April 23.
Gastroenrerology, Two Weeks, starring May 14.
Gastroscopy, Two Weeks, starting May 14.
Electrocardiography & Heart Disease, Two Weeks, starting March 19.

PEDIATRICS—Intensive Course, Two Weeks, starting April 2.
Congeniral & Acquired Heart Disease in Children, Two Weeks, starting May 7.
Cerebral Palsy, Two Weeks, starting July 9.

UROLOGY—Intensive Course, Two Weeks, starting April 16.
Cystoscopy, Ten Day Practical Course, every two weeks.

GENERAL, INTENSIVE AND SPECIAL COURSES IN ALL BRANCHES OF MEDICINE, SURGERY AND THE SPECIALTIES

TEACHING FACULTY—ATTENDING STAFF OF COOK COUNTY HOSPITAL

Address: REGISTRAR, 427 South Honore Street
Chicago 12, Illinois

COMPLETE SALICYLATE SATURATION

Without side effects

Relief of arthritic pain, the objective of therapy in joint involvements, is readily achieved with Salcedrox. The buffered sodium salicylate is more easily tolerated than salicylate alone, and is rendered systemically less toxic by the presence of calcium. The tendency to increased ascorbic acid loss is counteracted by the presence of calcium ascorbate in Salcedrox.

Salcedrox is highly useful whenever salicylates are indicated —in arthritis, rheumatoid involvements, neuromuscular affections, and rheumatic fever. It is available on prescription at all pharmacies. Literature supplied on request.

SE CO

Each Salcedrox tablet supplies:

Sodium salicylate	5 gr.
Aluminum hydroxide gel, dried	2 gr.
Calcium ascorbate (equivalent to 50 mg. of ascorbic acid)	1 gr.
Calcium carbonate	1 gr.

THE S. E. MASSENGILL COMPANY
Bristol, Tenn.-Va.
NEW YORK • SAN FRANCISCO • KANSAS CITY

SALCEDROX
TABLETS

REFILLING OF PRESCRIPTIONS IS TOPIC OF MEETING

(Continued from Page 26)

National Association of Retail Druggists, the American Pharmaceutical Manufacturers Association, and the American Pharmaceutical Association presented their views on the bill.

Dr. Torald Sollmann, council chairman, read the following statement expressing the council's views regarding prescription refills:

"It is the duty and responsibility of the physician to determine whether or not a patient requires additional medication beyond that specified in the original prescription. The physician rather than the pharmacist should determine whether or not refilling of a prescription is indicated or warranted. A change in the condition of the patient frequently necessitates a change in dosage or medication. The repeated and indiscriminate refilling of prescriptions without the knowledge or the authorization of the physician is a practice which must be condemned."

During the closed meeting in the afternoon it was decided that a three-member committee of the council should study all the provisions of the bill and submit a report to the entire council for consideration and approval.

The initial conditional release by the Food and Drug Administration of the new drug cortisone for distribution to A.M.A. approved hospitals only was

(Continued on Page 40)

Located 22 miles south of San Francisco. Accessible to transportation.

Belmont, Calif.

LYtell 3-0054 . . . . . Est. 1925

Twin Pines

NEUROPSYCHIATRIC SANITARIUM

In-potient services for ocute ond chronic emotionol illnesses

Electric shock — Insulin shock
Hydratherapy — Psychatherapy
Occupatianal therapy

Out-potient services for selective coses

Open Visiting and Consulting Staff

Attending Staff:
A. T. VORIS, M.D., Medical Director
T. H. BOONE, M.D. • ROBERT E. JAMES, M.D.

MENOPAUSAL Check and Balance

TEST-ESTRIN (MARLYN)

a mixture of ESTROGEN plus ANDROGEN

The dual effect of its mixed steroids produces a greater sense of confidence and well-being. Mutually inhibiting effects of the two hormones bring freedom from the commonly seen side effects of estrogens alone.

A *smoother physiological transition* in a vast majority of cases.

for buccal or sub-lingual administration

TEST-ESTRIN TABLETS

Full Strength
A-Estradiol U.S.P. ..... 0.5 mg.
Testosterone Crystalline ..... 2.5 mg.

Half Strength
A-Estradiol U.S.P. ..... 0.25 mg.
Testosterone Crystalline ..... 1.25 mg.

for parenteral administration.

TEST-ESTRIN INJECTABLE

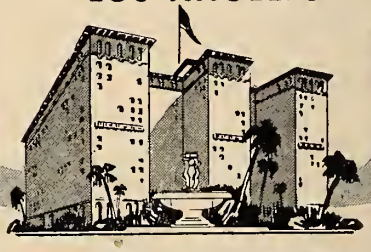
Each c.c. contains:
A-Estradiol U.S.P. ..... 1.0 mg.
Testosterone Prop. ..... 10. mg.
In Sesame Oil

Literature on request

MARLYN

MARLYN COMPANY, INC.
309 North Edinburgh, Los Angeles 48, Calif.

Rooms again *Available* especially
FRIDAYS • SATURDAYS
SUNDAYS
THE **BILTMORE HOTEL**
LOS ANGELES



DINING AND DANCING *in the World Famous* BILTMORE BOWL

Two Floor Shows Nightly
8:45 and 11:45

WRITE • WIRE • TELEPHONE MICHIGAN 1011

Preferred therapy in seborrheic dermatitis

Pragmatar is generally recognized as the most effective preparation available for seborrheic dermatitis, and for the general care and hygiene of the seborrheic scalp. It is also extremely valuable in eczematous and psoriatic eruptions in which a seborrheic factor is involved.

Pragmatar incorporates—in a superior oil-in-water emulsion base—carefully balanced proportions of three of the drugs which are fundamental in dermatological practice. Pragmatar is non-gummy and non-staining; easy to apply and easy to remove.

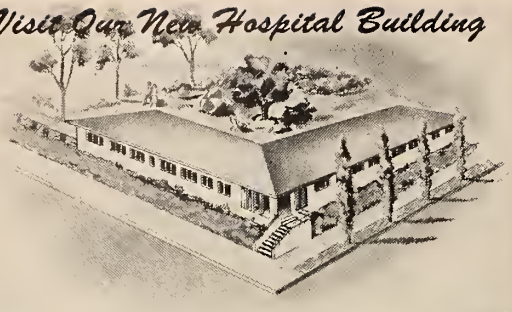
PRAGMATAR

Highly effective in an unusually wide range of common skin disorders

Smith, Kline & French Laboratories, Philadelphia 'Pragmatar' T.M. Reg. U.S. Pat. Off.

FORMULA: Cetyl alcohol-coal tar distillate, 4%; near-colloidal sulfur, 3%; salicylic acid, 3%—incorporated in a special washable base.

Visit Our New Hospital Building



Serving the Medical Profession Since 1935

HYGEIA SANATORIUM

Finest, Modern Accommodations for Treatment of Nervous Cases and

ALCOHOLICS

•

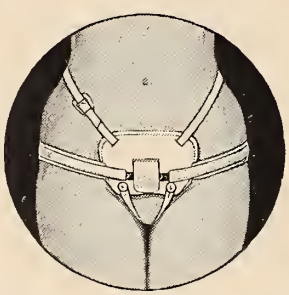
Conditioned Reflex Aversion Method Treatment and Consultation Rooms for Visiting Physicians
Facilities Available for Shock Therapy

•

Recognized by the American Medical Association

2534 BEVERLY BOULEVARD • LOS ANGELES 4, CALIF.
DUnkirk 8-8178

The Hittenberger Ptosis Spring and Pad



The lightweight unique appliance embadies all of the essential elements cantoined in the Hittenberger potented Ptosis Supporter and permits the potient to weor any carset or girdle over same. Our staff of expert fitters is highly trained ta toke core of every detail of ptosis supparter fitting ond potients ore thoroughly troined in proper methads of weoring ond opplying them.

•

HITTENBERGER'S

1117 Market Street San Francisco 460 Post Street
Oaklond Son Mateo Fresno

RADIOACTIVE DYE USED TO DETECT BRAIN TUMORS

A high degree of accuracy in detecting and localizing brain and spinal cord tumors by using a radioactive dye is reported by a group of Chicago medical researchers after a study of 200 suspected patients.

A 95.5 per cent accuracy in diagnosis of tumors of the central nervous system is revealed in a recent issue of the *Journal of the American Medical Association*. The report was made by Drs. Loyal Davis, John Martin, Moses Ashkenazy and George V. LeRoy, and Theodore Fields, B.S. All are associated with the department of surgery, Northwestern University Medical School, and Hines Veterans Administration Hospital radioisotope unit, Chicago.

The study was begun in July 1949 and is still being carried on. Since the initial report citing 200 patients was submitted to the *Journal*, hundreds more have been examined. Dr. Davis estimated that approximately 500 patients now have been studied and diagnosis made "with the same degree of accuracy."

The radioactive substance used is called diiodofluorescein—a chemical iodine dye compound. It is furnished by the Isotope Division, Oak Ridge National Laboratory, United States Atomic Energy Commission, to commercial pharmaceutical laboratories for preparation of the final product used in the examinations.

This radioactive dye has an affinity for tumor tissue, the surgeons said, reporting that "the more malignant the neoplasm the greater the radiofluorescein concentration." By using radiation detection equipment the concentration is located, revealing the site of the tumor.

Dr. Davis credits Dr. G. E. Moore, Minneapolis, with first conceiving this method of tumor detection but "it was first put to practical use in our study," he explained.

Briefly, this is what happens when a suspected tumor patient is examined by means of this radiodye:

The substance is injected into a vein—usually in the arm—in an exceedingly minute quantity.

"The quantity is so small," Dr. Davis says, "that there is no danger of radioactivity to the patient and the dye is quickly excreted from the body."

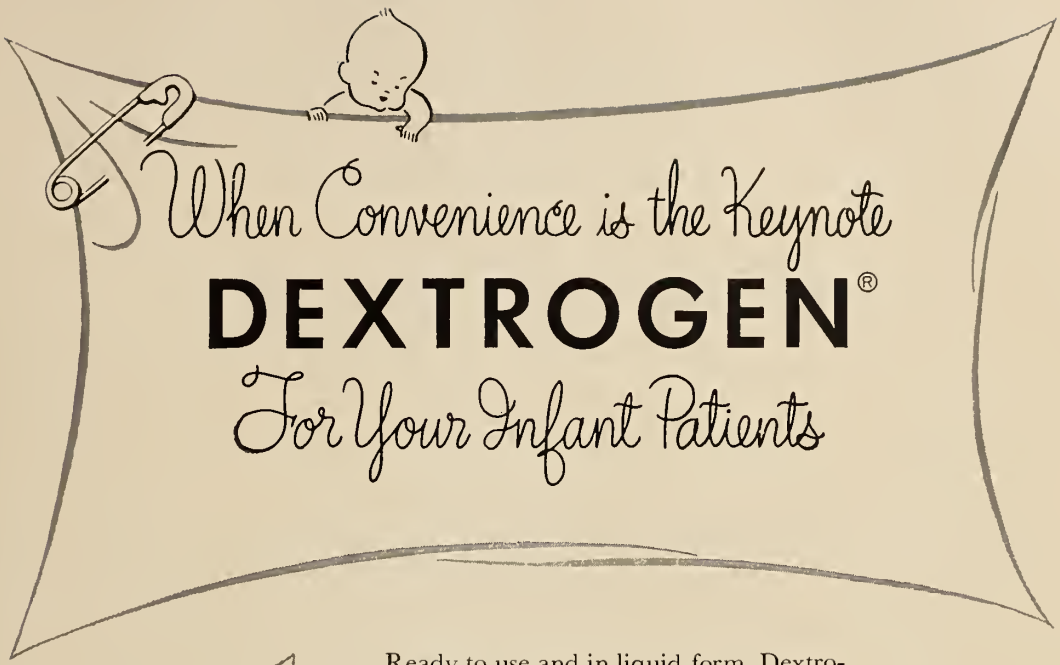
Within a minute or two after the injection, the radioactivity at the surface of the head is at a maximum. This decreases rapidly over the next 10 to 30 minutes when it tends to level off. After the leveling-off interval and for the next one to two hours, the decline in counts is gradual.

Radioactive radiations are measured by means of special detection equipment. A tube—called a Geiger-Mueller tube—is placed directly on the scalp. This tube sends radiations to a meter and the "count" or "clicks" per minute are recorded on a graph.

Symmetric positions can be studied accurately at this time. The most significant counting rates take place within a half hour to two hours after administration of the radiodye.

Thirty-two different positions on the scalp are

(Continued on Page 46)



When Convenience is the Keynote

DEXTROGEN®

For Your Infant Patients

Ready to use and in liquid form, Dextrogen is a concentrated infant formula, made from whole milk modified with dextrins, maltose, and dextrose. In addition, it is fortified with iron to compensate for the deficiency of this mineral in milk. Diluted with 1½ parts of boiled water,* it yields a mixture containing proteins, fats and carbohydrates in proportions eminently suited to infant feeding. In this dilution it supplies 20 calories per ounce.

The higher protein content of normally diluted Dextrogen—2.2% instead of 1.5% as found in mother's milk—satisfies every known protein need of the rapidly growing infant. Its lower fat content makes for better tolerability and improved digestibility.

Dextrogen serves well whenever artificial feeding is indicated, and is particularly valuable when convenience in formula preparation is desirable.

*Applicable third week and thereafter; 1:3 for first week, 1:2 for second week.

NOTE HOW SIMPLE TO PREPARE

All the mother need do is pour the contents of the Dextrogen can into a properly cleaned quart milk bottle, and fill with previously boiled water. Makes 32 oz. of formula, ready to feed.*

THE NESTLÉ COMPANY, INC.
COLORADO SPRINGS, COLORADO

Makers of Nestlé's Evaporated Milk
"No Finer Milk Can Be Produced"

REFILLING OF PRESCRIPTIONS IS TOPIC OF MEETING

(Continued from Page 32)

discussed. Inasmuch as cortisone now has been released for general distribution, this particular matter did not appear to require further consideration. However, in the future the council will give careful consideration to problems which may be involved in the conditional release of new drugs.

The toxicity of methyl salicylate (oil of wintergreen) was discussed. Inasmuch as this substance has caused an appreciable number of deaths in children who have ingested it, the council believes that there is a continuing need to advise the general public regarding the potential hazards of this and other chemicals of a poisonous nature. Ways and means of preventing these insidious poisons from being accidentally ingested will be explored.

George F. Lull, M.D.,
Secretary and General Manager, A.M.A.

OUR ADVERTISERS
WILL APPRECIATE
YOUR SUPPORT

PARK SANITARIUM
A proprietary institution for the care and treatment of alcoholic, addiction, and mental patients.
SINCE 1912
1500 PAGE STREET
SAN FRANCISCO 17
Telephone
MArket 1-4343

Reminder for arthritis cases!
The SAFE gold preparation AUROL-SULFIDE, 2% parenteral gold sulfide, is now available for physicians in any quantity desired, in 15, 30, and 60 cc. vials. Literature available. Please order direct or through your pharmacist.
6007 N. LINCOLN AVE.
HILLE LABORATORIES, Chicago 45

Octin - *for Relief of Smooth Muscle Spasm*

Octin is an antispasmodic, indicated for the treatment of spastic conditions of the genito-urinary, gastrointestinal and biliary tracts.

DOSE: Oral, 1 Octin tablet (2 grains) or 20 drops of the Oral Solution, every three to five hours. Injection, intramuscularly 1 cc. (1½ grains) every three to four hours.

Octin, methylisooctenylamine, Trade Mark Bilhuber.

Bilhuber-Knoll Corp. Orange, N. J.

Adequate Therapy is at last available...

The symptoms of headache, nervousness, backache, abdominal distention and malaise, which accompany the altered hormone-water-balance state of the premenstrual period, have been found to yield dramatically to the administration of—

M-MINUS 4 combines in each tablet 50 mg. of N,N-Dimethyl-N'-(2-pyridyl)-N'-(p-methoxybenzyl) ethylenediamine 8-bromotheophyllinate *[pyrabrom]*—with 100 mg. of acetophenetidin, the dependable, safe analgesic. M-MINUS 4 brings marked relief of symptoms, and, in many instances, shows evidence of correction of water-retention.

Dosage—One tablet three times a day for three to five days before onset of menses.

Bottles of 24 and 100 tablets.

Literature and a prescription package of 24 tablets will be sent upon request.

Whittier
LABORATORIES
DIVISION NUTRITION RESEARCH LABORATORIES, INC.
CHICAGO 11, ILLINOIS

Caution: In some individual cases there may be drowsiness or dizziness.

RADIOACTIVE DYE USED TO DETECT BRAIN TUMORS

(Continued from Page 36)

surveyed with the Geiger-Mueller tube, including 13 areas symmetrically studied on each side of the skull, alternating from left to right, and six middle positions. In this manner every inch of the skull is examined.

Suspected areas are rechecked several times to insure a high degree of accuracy. In order to determine definitely the site of the tumor, comparisons are made with the corresponding position on the opposite side of the head and positions surrounding the suspicious area.

In the normal person, the counts made over symmetric sites on the head vary from 0 to 40 counts per minute. Variations of more than 10 to 15 per cent from this norm are considered significant. The over-all increase of radioactivity over a tumor itself may be 50 to 100 per cent greater than the count over the same site in a normal brain.

"Use of this method of comparison with the normal values, and with symmetric and adjacent area values for a specific time interval," Dr. Davis explained, "has improved the reliability of our results."

Statistically a breakdown of the results of this test and further surgical verification on the initial 200 patients studied looks something like this:

(Continued in Back Advertising Section, Page 50)

THE NEW YORK POLYCLINIC

MEDICAL SCHOOL AND HOSPITAL

(Organized 1881)

(The Pioneer Post-Graduate Medical Institution in America)

For the General Surgeon

A combined surgical course comprising general surgery, traumatic surgery, abdominal surgery, gastroenterology, proctology, gynecological surgery, urological surgery. Attendance at lectures, witnessing operations, examination of patients preoperatively and postoperatively, and follow-up in the wards postoperatively. Pathology, radiology, physical medicine, anesthesia. Cadaver demonstrations in surgical anatomy, thoracic surgery, proctology, orthopedics. Operative surgery and operative gynecology on the cadaver.

Obstetrics and Gynecology

A full-time course. In Obstetrics: Lectures; prenatal clinics witnessing normal and operative deliveries; operative obstetrics (manikin). In Gynecology: Lectures; touch clinics; witnessing operations; examination of patients preoperatively; follow-up in wards postoperatively. Obstetrical and gynecological pathology. Anesthesia. Attendance at conferences in obstetrics and gynecology. Operative gynecology on the cadaver.

For Information Address: THE DEAN, 345 West 50th Street, New York 19, N. Y.

SEX MANUAL

For Those Married or About To Be

Written for the Layman

Fifth Edition, Revised. A medical best seller. Twelve printings. 400,000 copies.

By G. Lombard Kelly, A.B., B.S. Med., M.D., President and Professor of Anatomy, Medical College of Georgia.

With a foreword by

Robert B. Greenblatt, B.A., M.D., Professor of Endocrinology in the Medical College of Georgia.

Ethically distributed. Sold only to physicians, medical students, nurses, medical bookstores or on physician's prescription. This policy strictly adhered to.

Some of the 25 chapters cover sexual lubricants, use of condom, first intercourse, frequency, positions, clitoris contact, orgasm delay by local anesthesia, impotence, climacteric, birth control, etc.

Paper cover, 88 pp. (35,000 words), 12 cuts, single copy, 76c; 2 to 9 copies, 66c ea.; 10 to 24 copies, 61c ea.; 25 to 49 copies, 51c ea.; 50 to 99 copies, 46c ea.; 100 or more, 41c ea.; POSTPAID.

Terms: REMITTANCE WITH ORDER; NO C.O.D.'s. Satisfaction guaranteed. Retail price, $1.00 to patients, in medical bookstores, or when sold on prescription. Descriptive folder on request.

SOUTHERN MEDICAL SUPPLY CO.
P.O. Box 1168-C, Augusta, Ga.

a reliable quick acting

SEDATIVE SPASMOLYTIC

ELDONAL

CANRIGHT

A well balanced Belladonna derivative formula—plus PENTObarbital—without undesirable side effects or cumulative reactions.

Formula

Each tablet contains:

Hyoscyamine Sulfate.....0.156 mg.
Atropine Sulfate.....0.029 mg.
Hyoscine Hydrobromide..0.01 mg.
PENTObarbital Sodium (1/4 gr.).....16.2 mg.

Other Canright Quality Prescription Specialties

DIGESTANT • MATRIGEL • ELPRECAL
ELDOVITE • OBRICAL • HEMATINIC
HEMAFOLATE

ELDON H. CANRIGHT COMPANY
INCORPORATED
GLENDALE, CALIF. • ORLANDO, FLORIDA

California MEDICINE

OFFICIAL JOURNAL OF THE CALIFORNIA MEDICAL ASSOCIATION
© 1951, by the California Medical Association

VOL. 74 MARCH 1951 No. 3

An Evaluation of Cesarean Section

T. R. NANNINGA, M.D., *Alhambra*, and HENRY A. STEPHENSON, M.D., *San Francisco*

SUMMARY

The risks of cesarean section have been reduced in step with the increase in safety of all major surgical procedures.

In a series of 13,153 deliveries, 1,265 (9.6 per cent) were by cesarean section. There were three obstetrical maternal deaths in 11,888 cases in which delivery was by the vaginal route—0.025 per cent. In the series of 1,265 deliveries by cesarean section there was one death attributable to the operation —0.08 per cent.

The total uncorrected fetal loss following cesarean section was 3.8 per cent. This compares favorably with fetal loss of 3.2 per cent in the vaginal delivery group in this series, and with fetal loss rates reported from large obstetrical centers.

Anesthesia by spinal injection is the method of choice in cesarean section. There were no maternal deaths or accidents attributable to spinal anesthetic, and in no case was it felt that fetal death was attributable to it.

The incidence of maternal morbidity in the cesarean section group following spinal anesthesia was 15.8 per cent—less than half the incidence of morbidity following inhalation anesthesia.

THAT the employment of cesarean section has increased steadily in the past decade is evident from the published statistics of obstetrical services at various hospitals throughout the country. To justify this trend, the results obtained must be comparable to or better than those hitherto considered acceptable.

The present survey covers a series of 1,265 consecutive cesarean sections carried out on the obstetrical service of the Children's Hospital, San Franciso, between January 1, 1943, and December 31, 1948. As the total number of deliveries in that period was 13,153, the incidence of cesarean section was 9.6 per cent. These operations were done by 43 physicians, including resident staff members and 15 certified obstetricians. Ninety-five per cent of operations were on patients received in private practice. The incidence of various indications which led to cesarean section is shown in Table 1.

Cephalopelvic Disproportion and Contracted Pelvis

Patients with absolute contraction of the pelvis or with obvious disproportion were delivered by elective cesarean section. Those with borderline contraction of the pelvis were as a rule permitted a trial of labor. It is in the group of patients with borderline contraction of the pelvis that there should be critical evaluation as to the advantages which abdominal delivery may have to offer. In prolonged difficult labor and difficult operative deliveries by the vaginal route, the incidence of fetal mortality and of maternal morbidity and trauma is high. Cesarean section offers the mother as much safety as

Presented before the Section on Obstetrics and Gynecology at the 79th Annual Session of the California Medical Association, April 30-May 3, 1950, San Diego.

TABLE 1.—*Indications for Cesarean Section*

Indication	No. of Cases
Cephalopelvic disproportion	398
Previous cesarean section	392
Placenta previa and premature separation of placenta	85
Toxemia	77
Elderly primipara	76
Breech and other malpresentation	75
Uterine inertia	41
Pelvic tumors	23
Fetal indications	19
Previous stillbirths	15
Miscellaneous	64*

*Previous vaginal operation, 14; failure to deliver with forceps, 12; medical indication, 12 (diabetes, 6; rheumatic heart disease, 4; asthmatic state, 2); cervical dystocia, 11; previous myomectomy, 9; Rh-negative with titre, 6.

difficult mid-forceps delivery; and safety for the baby is considerably greater. Irving, in reporting on cesarean section in a ten-year period at Boston Lying-In Hospital, observed that mid-forceps delivery was as dangerous for the mother as cesarean section and eight times as dangerous for the infant. D'Esopo in 1950 reported from Sloane Hospital for Women, New York, that for the previous nine years it had been no more hazardous to the mother to deliver by cesarean section than by vaginal operation, low forceps excluded. With regard to the infant, D'Esopo observed that, with the increased employment of abdominal delivery and the resulting decrease in the incidence of mid-forceps delivery, there was a correlated decrease in the incidence of fetal birth trauma.

As to what constitutes a trial of labor, it is difficult to postulate any hard and fast rule. While the advent of effective antibacterial therapy has extended the time limits after onset of labor or after rupture of the membranes during which cesarean section may be performed with relative safety to the patient, such measures should not be counted upon to counteract the ill effects of poor clinical judgment. It is the authors' policy to try to evaluate, as early in labor as possible, not only the *possibility* of delivery by the vaginal route, but the *probability* that vaginal delivery can be accomplished with relatively little trauma to mother or infant. With rare exceptions the decision as to whether cesarean section is necessary can be made within 12 hours after the beginning of labor. Manahan and Eastman, in a study of 49 cases of pelvic contracture in which cesarean section was done after 30 hours of labor, reported that the cervix was completely dilated in only eight cases; in 29 cases dilation was less than 5 cm., and in 13 cases less than 3 cm. even after 30 hours of labor. These investigators noted that in cases in which vaginal delivery ultimately was accomplished, dilation of the cervix usually was complete or nearly complete within 12 hours of the onset of labor. It was further observed that in the presence of pelvic contracture if trial labor was extended beyond 30 hours, fetal mortality was more than 30 per cent.

Previous Cesarean Section

In the belief that repeat cesarean section is preferable to the risk of uterine rupture during labor, the authors carry out cesarean section delivery after approximately 39 weeks of pregnancy in any case in which there has been previous delivery by cesarean section.

Placenta Previa and Premature Separation of Placenta

These conditions cause a high maternal and infant mortality rate. Actual loss of blood and resulting shock cause many maternal deaths. The associated anoxia is a major factor in the fetal loss in these conditions. Also, prematurity of the baby contributes to the high rate. Delay in treatment must often be blamed for the aggravation of symptoms which may eventually lead to a condition from which the patient cannot be rescued.

While a general rule cannot be applied, it seems justifiable to state that in the presence of either of these conditions delivery should be carried out as expeditiously as is practicable, in the hope of preventing loss of blood and resulting shock in the mother and of giving to the baby the best possible chance of survival. In applying such a rule, vaginal delivery may be done advantageously only if the findings on examination show conditions favorable for easy and prompt termination, but cesarean section will frequently be the method of choice and, in the authors' opinion, will often give better results for both mother and baby.

Toxemia

In general, if a primipara with a firm uneffaced cervix is not responding to or controlled by medical regimen, the authors carry out cesarean section at the time judged most advantageous to the fetus and the mother.

TYPES OF OPERATION

In the series here reviewed, the low transverse cervical section was the type of operation employed in 1,206 (95 per cent) of the 1,265 (Table 2) cases. To the low cervical section the authors ascribe the following advantages over the classical section: (1) Lower incidence of uterine rupture in a subsequent pregnancy; (2) fewer postoperative complications; (3) less blood loss; (4) greater safety if infection should develop. In the occasional case in which utmost speed of delivery is necessary in the interest of either the mother or the baby, the classical cesarean section probably is the operation of choice.

TABLE 2.—*Types of Operation*

	No. of Cases
Low cervical cesarean	1,206
Cesarean hysterectomy	36
Classical cesarean	14
Extraperitoneal cesarean	9
Total	1,265

ANESTHESIA

In the six-year period covered in this study there was a shift away from anesthesia by inhalation (chiefly ether) and toward low spinal injection (Table 3). There were no maternal deaths due to the anesthetic agents, and in no case could fetal death be directly attributed to the spinal anesthetic agent. Every effort should be made to obtain the services of capable anesthetists in order to obtain the best results.

TABLE 3.—*Anesthesia for Cesarean Section*

Type	1943-44	1945-46	1947-48	Total
Spinal	20	111	441	572
Gas, oxygen, ether	217	233	34	484
Other inhalation	61	46	10	117
Local	15	13	12	40
Sodium pentothal	2	18	15	35
Caudal	0	4	13	17
				1,265

MORBIDITY

In considering postpartum morbidity, any patient with a temperature of 100.4° F. or more in any two 24-hour periods exclusive of the first 24 hours was classified as being in a morbid state. The incidence of morbidity in relation to the type of anesthesia and the type of operation is shown in Tables 4 and 5. It is noteworthy that the morbidity rate in the group given spinal anesthesia was 15.8 per cent—less than half that in the group anesthetized by inhalation. The incidence of morbidity was about the same with one type of cesarean section as with another. As a general rule, antibiotics were not given prophylactically.

TABLE 4.—*Maternal Morbidity in Relation to Type of Anesthesia*

	No. Patients	Morbidity (Per Cent)
Spinal	572	15.8
Gas, oxygen, ether	484	33.1
All other	209	35.9

TABLE 5.—*Maternal Morbidity in Relation to Type of Operation*

	No. Patients	Morbidity (Per Cent)
Low cervical section	1,206	25.7
Cesarean hysterectomy	36	22.2
Classical cesarean	14	21.4
Extraperitoneal cesarean	9	22.2

MATERNAL DEATHS

In the series of 1,265 cesarean deliveries there were five (0.39 per cent) maternal deaths (Table 6). However, in only one case (0.08 per cent) was death attributable directly to the operation. There were no deaths from hemorrhage or infection. In the 11,888 vaginal deliveries during the same period there were ten maternal deaths, but only three (0.025 per cent) were obstetrical.*

The fetal death rate (Table 7) in the cesarean section series compared favorably with the death rate in the vaginal delivery group. It also compared favorably with results reported from other large obstetrical centers (Table 8). Prematurity and atelectasis were the major causes of fetal death in the series of cesarean sections here reviewed. Practically all fetal deaths were attributable to the factor necessitating cesarean section, and not to the operation itself.

In general, the figures in Table 8 seem to imply that judicious use of cesarean section in a relatively larger per cent of cases lowers both maternal and fetal mortality rates.

D'Esopo,[1] in a recent evaluation of cesarean section, predicted that the "difficult, traumatic midforceps operations will be relegated to the obsolete procedures along with craniotomy, high forceps, versions, the bags, and bougies. The obstetrician will gradually reduce the incidence of vaginal operative deliveries by accepting a less rigid definition of cephalopelvic disproportion, by simply substituting the cesarean section for difficult vaginal deliveries when the occasion for such deliveries unpredictably

*The causes of death in the other seven cases were: transfusion reaction, miliary tuberculosis at three months, bulbar poliomyelitis, Landry's paralysis at three months, chronic pyelonephritis at six months, intestinal obstruction (volvulus) at three months, and spontaneous subarachnoid hemorrhage at seven months.

TABLE 6.—*Cases in Which Maternal Deaths Followed Cesarean Section*

Case	Age	Parity	History	Labor	Died	Cause of Death
1.	31 yr.	4	Essential hypertension Repeat preeclampsia	0	15 min.	Eclampsia Intracranial hemorrhage
2.	26 yr.	0	Moderate preeclampsia	0	3 hr.	Eclampsia Intracranial hemorrhage
3.	26 yr.	0	Moderate preeclampsia	0	48 hr.	Eclampsia Intracranial hemorrhage
4.	23 yr.	0	Not pertinent	0	30 hr.	Rupture of aneurysm, anterior communicating circle of Willis
5.	38 yr.	0	Not pertinent	10 hr.	28 days	Pulmonary embolism

Living baby in each case

TABLE 7.—*Fetal Mortality Rates Associated with Vaginal and Cesarean Section in a Series of 13,153 Deliveries*

	Vaginal		Cesarean	
	No.	Per Cent	No.	Per Cent
Deliveries	11,888		1,265	
Stillbirths	163	1.4	19	1.5
Neonatal deaths	216	1.8	29	2.3
Total fetal deaths	379	3.2	48	3.8

arises. Perhaps the best data to substantiate the value of such a policy is noted in the fact that cranial injuries at birth, as revealed by autopsy files at Sloane Hospital, New York, have been reduced to very nearly one per thousand births. The factors which make cesarean section so safe today make normal vaginal delivery even safer. Greater safety, especially to the mother, will always be inherent in the normal delivery, and for that reason we will never reach a stage in the development of the specialty when the cesarean rate may be permitted to rise with impunity." The authors agree with D'Esopo.

924 East Main Strect.

TABLE 8.—*Cesarean Statistics Taken from Various Reports*

	Cesarean Sections	Cesarean Per Cent of Total Deliveries	Mortality Per Cent —Cesarean Section— Maternal	Fetal
Dublin, Ireland (Collected) 1932-46	2,273	2.1	2.7	11.4
Evanston Hosp., Ill., 20,811 deliveries to 1948	856	4.1	0.93	8.2
Rochester, N. Y., (Collected) 1937-46	1,619	2.4	0.94	7.9
Boston Lying-In Clinic, 1934-43	1,094	3.2	1.4	7.8
Boston Lying-In (Private) 1934-43	793	6.7	1.1	5.5
Sloane Hospital, N. Y., 1941-48	1,000	5.8	0.1	3.7
Children'sHospital, San Francisco, 1943-48	1,265	9.6	0.39	3.8

REFERENCES

1. D'Esopo, D. A.: A review of cesarean section at Sloane Hospital for Women: 1942-1947, Am. J. Ob. & Gyn., 59:77, Jan. 1950.

2. Irving, F. C.: Ten years of cesarean section at the Boston Lying-In Hospital, Am. J. Ob. & Gyn., 50:660, Dec. 1945.

3. Manahan, C. P., Connally, H. F., Jr., and Eastman, N. J.: The experience of the Johns Hopkins Hospital with cesarean section, Am. J. Ob. & Gyn., 44:999, Dec. 1942.

Discussion by DONALD W. DECARLE, M.D., *San Francisco*

It was Dr. J. C. Litzenberg who defined the conservative obstetrician as "the one who knows when to be radical." I hope I am not presumptuous in applying this qualifying definition to those of us whose results have been so well presented by Dr. Nanninga. I think there is little question that in the majority of private hospitals and even in many of the teaching institutions there has been a steady and justifiable increase in the percentage of abdominal cesarean sections during the past two decades. In my opinion, this increase has been the result of several factors. The majority of these have already been presented and discussed by the authors. Some I would like to further emphasize and others I would like to modify.

In the first place, there has been a gradual broadening of the indications for abdominal cesarean section. No one can deny that there has been a definite improvement in both fetal and maternal mortality in the presence of hemorrhage during the third trimester. Increased safety in transfusion technique, admittedly has been the chief factor. However, the swing toward abdominal delivery, especially in the presence of proven placenta previa, has also been a definite contribution. Secondly, there has been an increasing tendency toward surgical interference to salvage babies showing signs of intrauterine embarrassment, with justifying results. Thus, fetal distress is now considered by many to be a definite indication for cesarean section.

Next, the authors have shown the improved results in the presence of potential infection, making trial labor a safe procedure. The improvement may correctly be attributed to antibiotics, and to the improved technique of cesarean section, especially the low cervical and the extraperitoneal types of procedure.

Lastly, I am in entire agreement with the authors in their views on mid-forceps procedures, with one exception. It is common knowledge that the number of mid-forceps maneuvers increases in proportion to the number of cases in which caudal anesthesia is employed. However, with the increased relaxation obtained by this form of anesthesia, mid-forceps procedures are not the hazard that they were, and still are, in cases in which the patient is under general anesthesia.

By way of modification rather than criticism, I would like to further clarify our attitude in the handling of the elderly primipara. The age alone should never be considered the criterion for abdominal delivery. However, in general, if one or more indications, whether definite or questionable, are found in a primipara 35 years of age or over, it is our feeling that abdominal cesarean section is entirely justifiable.

I wish to say a word in favor of low spinal anesthesia in cesarean section. It is a procedure which has been severely condemned in the past as definitely dangerous to both mother and infant. In our experience during the past four years, this procedure has been employed almost exclusively. With the Pfannesteil type of abdominal incision which we use for cesarean section, one half the anesthetic agent previously employed is sufficient. Skin anesthesia midway to or at the umbilicus is all that is necessary for complete pain relief, thus considerably increasing the margin of safety for the mother.

Preliminary Studies of the Gastrointestinal Tract with Colloidal Barium

Frank Windholz, M.D., Henry S. Kaplan, M.D., and Henry H. Jones, M.D., *San Francisco*

SUMMARY

A stable colloidal suspension of barium sulfate has been developed and tested in roentgen examination of the gastrointestinal tract. The new material is rather distinctive in radiographic appearance and can usually be differentiated from simple barium-water mixtures by inspection of roentgenograms of the opacified stomach and small intestine. It usually affords a satisfactory demonstration of the mucosal folds of the stomach and duodenal bulb and is considerably more resistant to flocculation and precipitation by retained gastric secretions. In the small intestine, it has little tendency to undergo flocculation and fragmentation, and permits visualization of fine mucosal configurations with unusual clarity. Its motility is about the same as that of conventional suspensions. Air contrast colon examinations with the colloidal preparation exhibit a very uniform, opaque, and stable coating of the bowel wall and are more consistently satisfactory than when simple barium-water mixtures are used.

FOR many years radiologists have been seeking an opaque medium with which consistently better visualization of the gastrointestinal tract might be obtained than with the usual suspension of barium sulfate in water. Such suspensions are labile under a variety of conditions; flocculation and precipitation of the barium may occur suddenly as a result of dilution, dehydration, or change in pH. These shortcomings are especially noticeable during examination of the small intestine, air contrast examination of the colon, and attempted demonstration of gastric mucosal folds.

The ideal medium would provide a uniform, smooth, radiopaque coating over the bowel wall; would mix readily with retained secretions of the stomach, intestine, and colon; would not be influenced by variation in pH, by contact with mucous secretion, or by the action of the digestive enzymes; would pass freely and promptly through the bowel with no tendency to break up into isolated collections, to precipitate out of suspension, or to become inspissated and impacted. In addition, the medium must of course be non-toxic, palatable, convenient to use, and inexpensive.

From the Department of Radiology, Stanford University Hospitals.

Presented before the Section on Radiology at the 79th Annual Session of the California Medical Association, San Diego, April 30-May 3, 1950.

Dr. Windholz died April 29, 1950.

DESCRIPTION OF THE COLLOIDAL MEDIUM

In 1949 one of the authors (Windholz) was instrumental in the development of a stable colloidal aqueous suspension of barium sulfate. This preparation is now available in two forms: a viscous concentrated suspension, for examination of the upper gastrointestinal tract, and a less viscous, dilute suspension for use in opaque enemas.*

The medium for use in the upper gastrointestinal tract is about the consistency of heavy cream. It remains in suspension indefinitely, requiring only slight shaking before use if it has been standing more than a few days. It resists precipitation by saliva and gastrointestinal secretions (it will precipitate slightly when mixed with retained gastric secretions but is much less subject to this fault than the usual barium sulfate and water mixtures). It forms a readily visible (although thin), uniform, unbroken coating over the stomach or bowel wall which gives an unusually good silhouette of the mucosal surface, especially when air is present to provide a double contrast. In addition, it tends to remain in a single column which in many cases may extend from stomach to colon. Segmentation and flocculation are minimal. The material resists desiccation and remains fluid in its passage through the alimentary tract. Constipation has not been a source of complaint. The material has no food value and is tasteless; however, vanilla or other flavoring is usually added by the manufacturer to make it more palatable. The medium for colonic use is similar but more fluid and considerably less dense.

PROCEDURE AND RESULTS

Clinical evaluation of the new medium was carried out in the Department of Radiology, Stanford University Hospitals. Two rooms were provided with identical radiographic-fluoroscopic equipment. The colloidal material was used in one of these rooms and the usual barium sulfate and water mixture in the other. The two rooms did not receive an exactly equal number of patients, but no attempt was made to select patients for examination with one medium or the other.

After the medium had been in use about four months, two of the authors (Kaplan and Jones) re-

*Made by the Pacific Chemical Company, 617 Montgomery Street, San Francisco, under the trade name "Baridol."

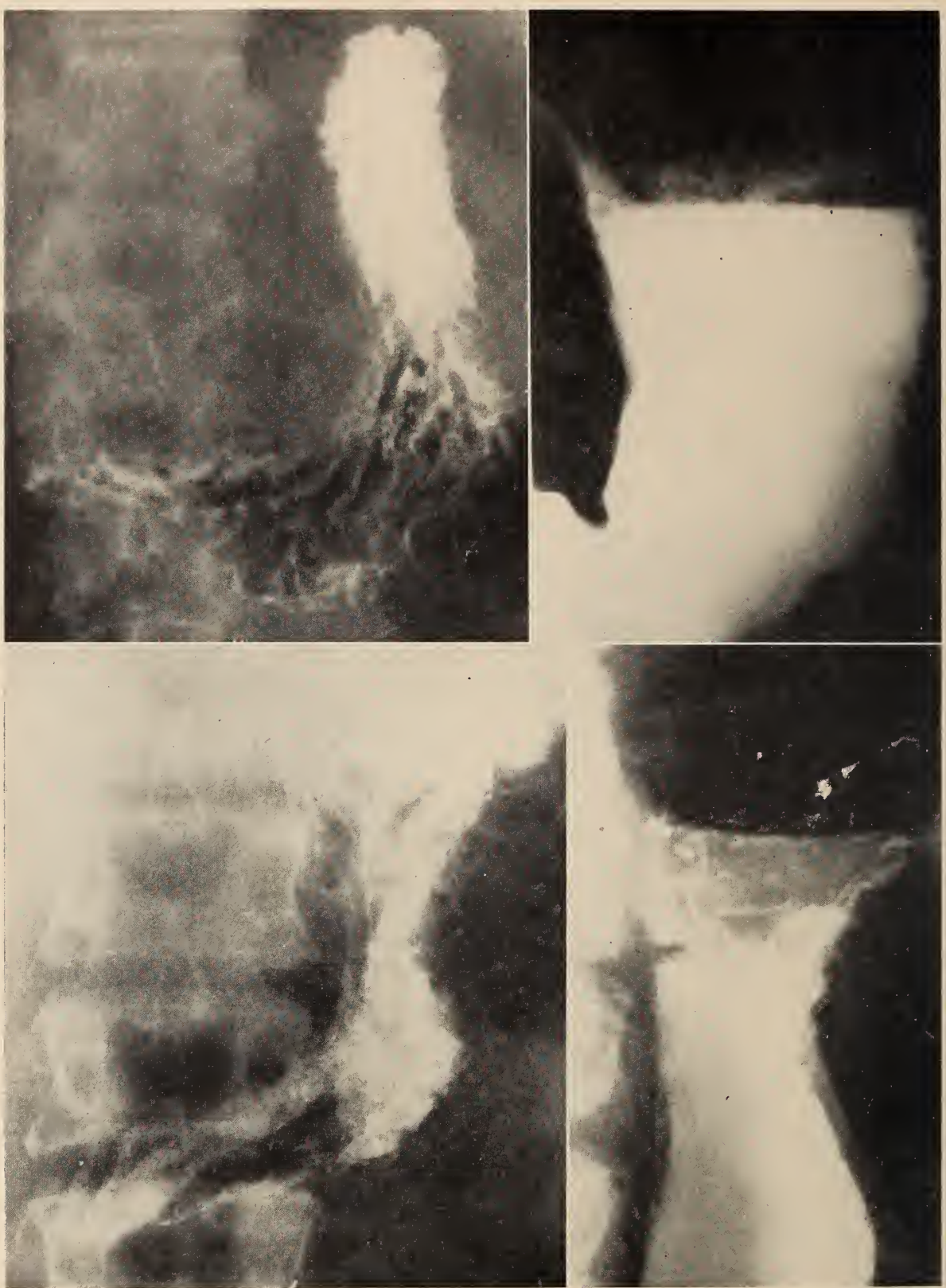


Figure 1.—*Upper left:* Good spot film demonstration of gastric mucosal pattern with colloidal barium despite *(upper right)* retained fluid in stomach seen layered above barium on erect spot films. *Lower left:* Prompt precipitation of conventional barium-water suspension in amorphous flocculated form, obscuring mucosal pattern, in the presence of *(lower right)* retained gastric secretions.

viewed the films in a series of 208 cases with reference to the following items: (1) recognition of type of medium employed; (2) demonstration of the gastric mucosal pattern, filled stomach, filled and compressed duodenal bulb, mucosal pattern of small bowel, distribution and contours of small bowel, and degree of flocculation; and (3) motility of the meal. In the series, the colloidal preparation was used in 137 cases while 71 control cases received the usual barium sulfate suspension in water.

The recognition test was carried out because it was felt that if the new medium were significantly different from conventional barium-water mixtures it should be possible to detect which had been used in a given examination merely by inspection of the films. The results of this test are summarized in Table 1. It can be seen that the colloidal material was seldom mistaken for conventional barium suspensions, but that the converse occurred not infrequently. Review of the latter group revealed that confusion of the two media was almost entirely confined to the group of cases in which ordinary barium-water mixtures had given relatively optimal results.

Qualitative evaluation of each case was made at the time of the recognition test, before the medium actually used in that case was revealed. Some of the collected observations are presented in Table 2. Both media gave satisfactory opacification of the filled stomach. Gastric mucosal folds were well demonstrated in a greater percentage of cases when the colloidal material was used, although visualiza-

TABLE 1.—*Colloidal Barium Recognition Test*
(208 Examinations of Upper Gastrointestinal Tract)

In *71* cases *barium in water* was used. In review of the films:	
50%	were recognized as *barium in water* in the stomach.
60%	were recognized as *barium in water* in the small intestine.
35%	were mistaken for *colloidal barium* in the stomach.
25%	were mistaken for *colloidal barium* in the small intestine.
15%	were indeterminate or incomplete.
In *137* cases *colloidal barium* was used. In review of the films:	
90%	were recognized as *colloidal barium*.
5%	were mistaken for *barium in water*.
5%	were indeterminate or incomplete.

Figure 3.—Partialty "pressed out" normal duodenal bulb showing longitudinal mucosal folds as revealed by colloidal barium.

Figure 2.—Double contrast visualization of antral portion of stomach coated with colloidal barium in supine projection. In the film at the right, the duodenal bulb is similarly demonstrated.

TABLE 2.—*Mucosal Pattern Evaluation*

	Good	*Fair*	*Poor*
STOMACH:			
Barium in water	60%	25%	15%
Colloidal barium	70%	20%	10%
DUODENAL BULB*:			
Barium in water	50%	30%	5%
Colloidal barium	80%	5%	5%
SMALL INTESTINE:			
Plain barium	50%	40%	10%
Colloidal barium	90%	8%	2%

*Evaluated on pressure spot films. Bulb not visualized in remaining cases.

tion was unsatisfactory in 10 per cent of the cases even with this medium. The new material often yielded good mucosal patterns in the presence of retained gastric secretion (Figure 1). It tended to coat the gastric surface rather uniformly, and, in the presence of air, this property often afforded unusual demonstrations of the antrum and corpus in supine projections (Figure 2).

The relative merits of the two media in the duodenal bulb paralleled those in the stomach. The greater film-forming properties of the colloidal material were even more evident, a faint coating being rather consistently observable on compression "spot" films (Figure 3).

In the small intestine, the colloidal suspension provided a pattern quite unlike that usually observed with barium and water mixtures. It formed a smooth uniform coating which outlined the walls and valvulae with great clarity (Figure 4). The tendency to maintain a single column was pronounced, and frequently the entire small bowel from stomach to colon was clearly visualized on a single film (Figure 5). Flocculation and segmentation were minimal (Table 3). Motility did not appear to be significantly different from that of ordinary barium-water mixtures.

The new medium has not been used extensively for opaque enema examination of the colon because its advantageous properties are minimized under these conditions and its greater viscosity delays filling of the colon. It has, however, yielded consistently superior results in double contrast examinations of the large bowel. The technique of this examination is described elsewhere[1] and only those details pertinent to the use of the new medium will be noted here.

The double contrast examination was always done as a separate procedure, not as an immediate sequel to the conventional examination with opaque enema. The "colonic" preparation used initially was felt to be insufficiently opaque and more recently the more

TABLE 3.—*Observations in Small Intestine*

	None	*Slight*	*Moderate to Pronounced*	
FLOCCULATION:				
Barium in water	50%	20%	30%	
Colloidal barium	90%	5%	3% †	
	Single Column	*Slight*	*Moderate*	*Marked*
FRAGMENTATION:				
Barium in water	35%	20%	40%	5%
Colloidal barium	85%	6%	8%	1%
	One Hour	*Two Hours*	*Five Hours*	
MOTILITY*:				
Barium in water	45%	65%	85%	
Colloidal barium	35%	60%	85%	

*Head of meal in cecum or colon at indicated interval.
†In 2 per cent of cases, flocculation was indeterminate.

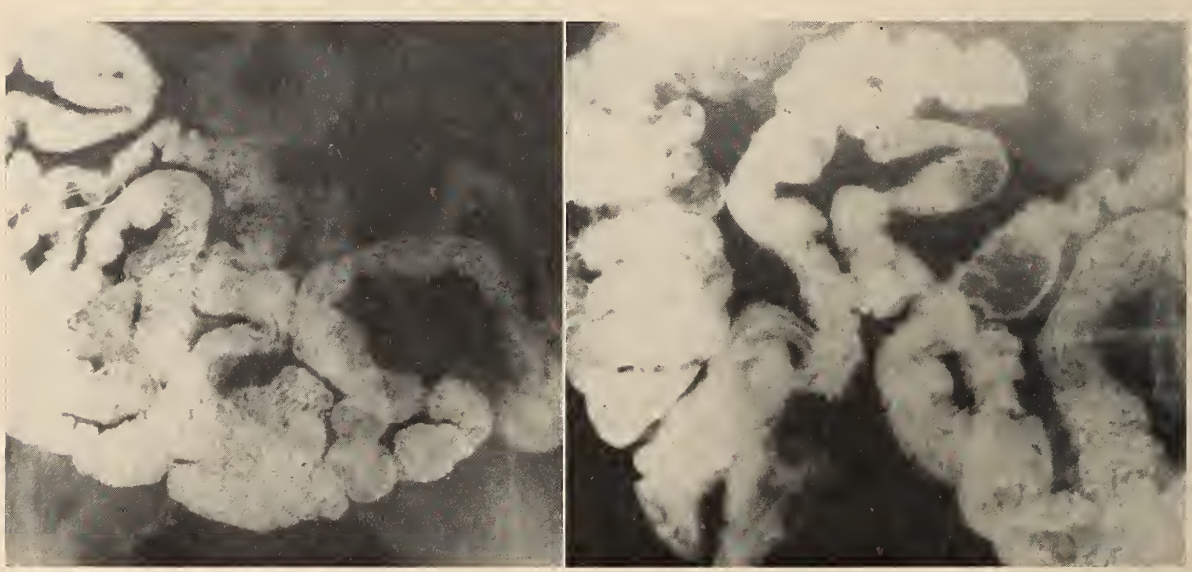


Figure 4.—Demonstration of intimate details of small intestinal mucosal surface with colloidal barium. Note ileocecal valve region in film at the right.

Figure 5.—Progress films in two cases, illustrating tendency of colloidal barium to maintain a single opaque column from the stomach or upper small intestine into the colon.

Figure 6.—Spot film showing uniform opaque coating obtained with colloidal barium in air contrast colon examination.

viscous preparation usually employed in gastric examinations has been used. This material will not fill the colon by gravity flow; it may be "milked" along the enema tube or injected with a large piston-type syringe. Air is then pumped into the colon with the conventional rubber bulb and bag and the patient is so manipulated as to facilitate the distribution of the opaque medium. The inflated, barium-coated bowel is easily visualized fluoroscopically when the viscous medium is used, and spot films may be made selectively over any desired segment.

With proper technique, the colloidal medium provides a thin, uniform, smooth coating of homogeneous character (Figure 6). A number of polyps measuring less than 1 cm. in diameter have thus been detected and verified. Satisfactory examinations have resulted from the use of the new medium in this procedure much more consistently than with simple barium-water mixtures. However, it cannot yet be stated that the colloidal material will enable the detection of a significantly greater proportion of polyps than has hitherto been possible.

DISCUSSION

Completely objective evaluation of a radiographic opaque medium is not really possible. Nevertheless, it is felt that the "blind" method of analysis of parallel test and control cases has eliminated many major sources of subjective error in this study. The evidence indicates that the colloidal medium is superior to simple barium-water mixtures in demonstrating the mucosal surface of the small intestine and duodenal bulb, in coating the colon during air contrast examinations, and in its resistance to precipitation by gastric secretions. These results are preliminary, and much more experience with this medium will be necessary before a definitive evaluation can be attempted. Nevertheless, they encourage the hope that further investigation will soon yield an optimal opaque medium for gastrointestinal examination.

REFERENCE

1. Jones, H. H., Kaplan, H. S., and Windholz, F.: Air contrast colon examination with colloidal barium (manuscript in preparation).

The Treatment of Mediastinal Tumors

Paul C. Samson, M.D., and David J. Dugan, M.D., *Oakland*

SUMMARY

Because there can be no certainty of diagnosis without it, thoracotomy is indicated in cases in which there is roentgenographic evidence of mediastinal tumor. "Watchful waiting" is considered unwise because the tumor may be malignant when first observed or may later undergo malignant change. Even if the lesion is and remains benign, an increase in the size of the mass may cause obstructive pressures necessitating operation ultimately. Moreover, infection and inflammation may develop at the site during prolonged observation, making operation more difficult.

The hazards of thoracotomy, which have been greatly reduced in the last few years, are less than the hazards of waiting.

IT is unfortunate that many physicians, in dealing with cases in which an abnormal mediastinal shadow is observed on x-ray films, still adhere to the "wait and see" school or consider *all* patients in such circumstances as candidates for a trial of roentgen therapy. Time was, not many years ago, when such an attitude could be considered warranted because the hazards of exploratory thoracotomy were considerable and it was particularly difficult to justify the operation if the suspected tumor was causing no clinical symptoms. Exploration was done only if there were moderately severe symptoms; and the over-all results, statistically speaking, were not impressive.

Now, however, with the risks of thoracotomy greatly reduced and with improvement in the use of various other diagnostic aids, it is to be hoped that physicians in general practice, who so often are the first to observe a patient, will immediately recommend further advice as to diagnosis and treatment in any case in which there is roentgen evidence of mediastinal tumor.

With the increasing number of mass roentgen surveys which are being carried out, it is probable that more and more persons with asymptomatic mediastinal shadows will seek medical advice. Not infrequently, patients are reluctant to submit to operation, particularly if there are no distressing symptoms present. In such circumstances there is a brief explanation which frequently is of aid. After the shadow is pointed out, the patient is asked what he or she would consider necessary if a lump of similar size, which could be felt, suddenly appeared in the breast, abdomen, pelvis or under the skin.

The diagnosis of mediastinal tumors as to histologic type is infinitely more difficult than the mere recognition of a mediastinal shadow on roentgen examination. Considering the embryology of the region, the presence of descendants of all three germinal layers and the complicated adult structures contained therein, it is small wonder that exact labeling usually is impossible. Even with the tumor extirpated and examined, pathologists frequently disagree among themselves as to the exact cell type and also as to benignancy or malignancy.

It is common practice to divide the mediastinum into anterior, middle, and posterior compartments. One can then speak in general, of the most common varieties of tumor occurring anteriorly, posteriorly, superiorly, inferiorly, unilaterally or bilaterally. Thus, statistically, one has a better chance of guessing the diagnosis preoperatively. This is not of great value, however, to the individual patient. The most frequent anterior mediastinal tumors are teratoid tumors and thymomas. In the middle mediastinum, the lymphoma group (including Hodgkin's disease) is of most common occurrence. The most frequently encountered posterior tumors are neurogenic. Cysts of various types (bronchiogenic, "spring water," enterogenous, etc.), lipomas and other uncommon tumors, and granulomas may occur anywhere. The authors have observed in the right superior mediastinum, for instance, lymphoma, thymoma, thyroid adenoma, neurofibroma, bronchiogenic cyst, pericardial cyst, granuloma, lipoma, meningocele and aneurysm.

DIAGNOSTIC AIDS

Roentgen examination remains the most reliable single method in the diagnosis of a mediastinal shadow. Films in the frontal and lateral projections are mandatory. Fluoroscopy also is necessary in determining the pathologic dynamics of the neoplasm including pulsation and the presence of concomitant nerve palsies. Special roentgen examinations include visualization of the esophagus by barium, rib detail studies for calcification or bone erosion, tomograms and kymograms. In reference to the latter, it must be remembered that many aneurysms do not pulsate and many cystic tumors do pulsate (Figures 1 and 2). In specific regard to aneurysms, angiocardiography may be of considerable aid.[1] If this lesion is suspected, a Wassermann test of the blood should be done and the patient should be carefully questioned with regard to trauma.

Presented at the Annual Staff Meeting, Veterans Administration Hospital, Whipple, Arizona, May 10, 1950.

Associate Clinical Professor of Surgery, Stanford University School of Medicine; Area Consultant in Thoracic Surgery, Veterans Administration (Samson). Consultant in Thoracic Surgery, Veterans Administration Hospital, Oakland, California (Dugan).

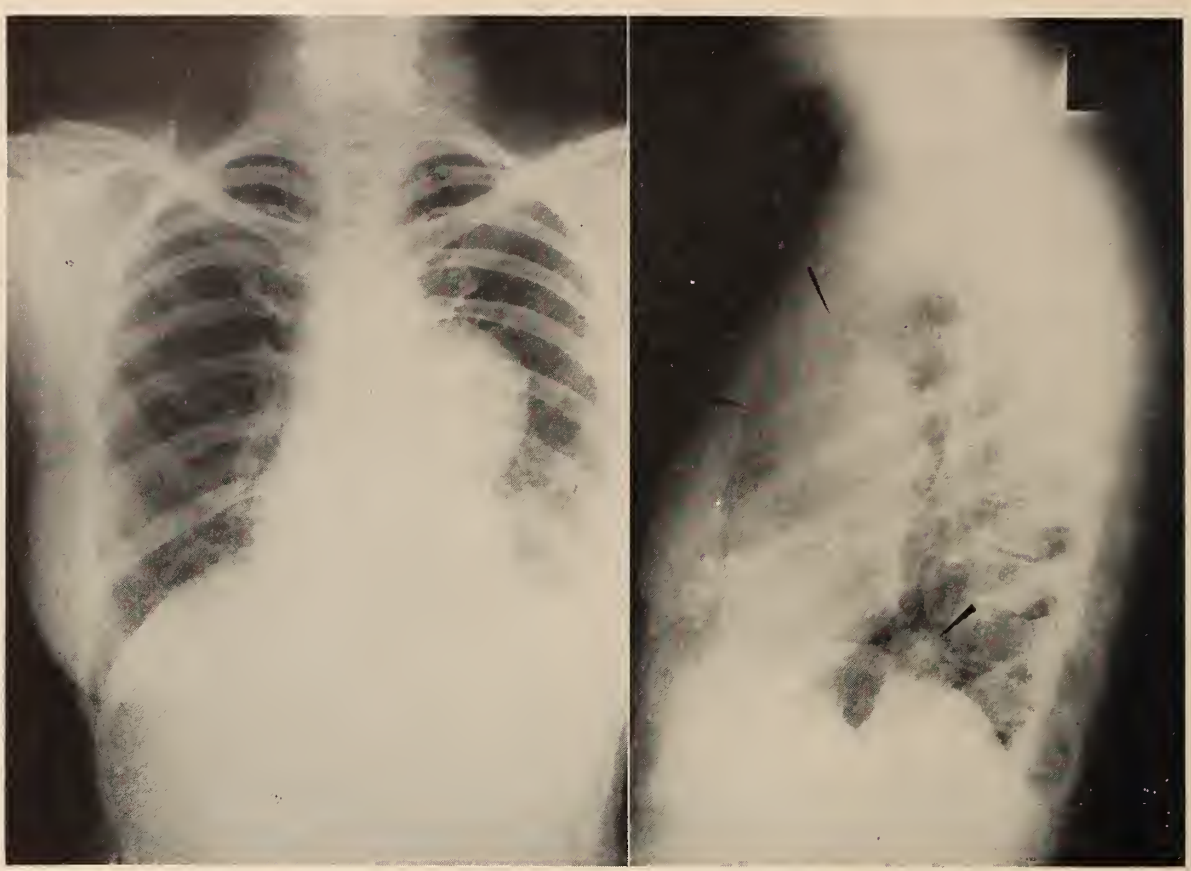


Figure 1.—Roentgenogram in frontal and left lateral views. There is an anterior mediastinal mass which showed expansile arterial pulsation both fluoroscopically and by kymogram. It had been observed for six years and there had been some increase in size. It had been considered an aneurysm during that time. At operation, a multilocular teratoid cyst was removed. The supradiaphragmatic shadow seen in the lateral projection was a small traumatic diaphragmatic hernia containing omentum.

A typical lymphoma is frequently bilateral and tends to have a scalloped border rather than perfectly rounded edges. Only if a lymphoma is suspected should roentgen therapy—that is, "roentgen biopsy"—be considered.[15]

Bronchoscopy may be performed if there are symptoms of major bronchial obstruction, such as cough, sputum, and hemoptysis; and bronchograms may be indicated under the same conditions. Direct and indirect laryngoscopy are advisable if there is suspicion of recurrent nerve paresis. Biopsy of supraclavicular lymph nodes from the fat pad overlying the anterior scalene muscle may be very helpful.[6] This is more likely to be productive of information if the specimen is taken from the right side rather than from the left.

Pneumothorax and thoracoscopy occasionally have been advised. The authors believe these studies are without merit in most instances. There is a certain amount of time consumed, and the procedure is not without cost nor entirely without risk. Thoracoscopy and biopsy can at best supply only the diagnosis, and it is but infrequently that this will change one's mind concerning the desirability of exploratory operation.

In certain rounded lesions near the spine with extensive erosion, meningocele must be considered and intraspinal Pantopaque studies will be of value.[5]

Figure 2.—Photograph of oval multilocular teratoid cyst. The fluid was a tenacious brown, grumous material. Microscopically, there were observed gastrointestinal glands, bronchial mucosa, squamous epithelium, sebacious glands and hair follicles.

Neurofibromas likewise may cause enlargement of intervertebral foramina with intraspinal "dumbbell" extensions. Mild symptoms of spinal pressure may be present. Even if no such symptoms are present it may be necessary to explore the spinal canal either through the chest or at separate laminectomy.

For lesions at or near the diaphragm, special studies with barium enema, barium meal and pneumoperitoneum may aid in establishing the presence of diaphragmatic hernia[13] of some type.

In general, the authors are opposed to needle biopsy if the preponderance of evidence indicates tumor, for there is always the danger of rupture of a cyst, contamination, or the spread of an early malignant growth. Needle aspiration is valuable in determining the presence of suspected pleural fluid collections.

Studies such as those outlined may give leads as to diagnosis, but they should be chosen with care. Should a majority of them be employed, the cost to the patient might well equal or exceed that of thoracotomy. Nearly all diagnoses must be made at exploration. Justification for many of the tests becomes evident in the case of the rare patient whose general condition militates against elective surgery. An attempt should be made, therefore, to approximate the diagnosis as nearly as possible, and decision then should be reached on the basis of "calculated risk" whether to continue observation of a possibly benign tumor or to operate for removal of a probably or potentially malignant one.

SIGNS AND SYMPTOMS

In many cases mediastinal tumors cause no symptoms whatsoever. In others, the symptoms are so mild that only by careful questioning can a correlated story be elicited. Signs and symptoms, when present, are protean and depend upon the location, the size, the presence of infection and/or malignant degeneration in the tumor.[4] For the most part, the symptoms are due to pressure on contiguous structures or, in the case of malignant tumor, to infiltration. Thus, pressure on trachea or bronchi will produce cough or wheezing. If a fistula is present, the cough may be productive or there may be blood streaking. Pressure on the esophagus may produce dysphagia. Pressure on nerves may lead to pain, Horner's syndrome, and vocal cord or diaphragmatic paresis. Pressure on vessels may produce obstructive symptoms. Pressure on the heart may be made manifest by transient irregularities or by bizarre electrocardiographic tracings. The size of the growth alone may diminish the pulmonary reserve so much as to produce dyspnea (Figure 3). It will be noted that some of the signs and symptoms mentioned, particularly obstructive symptoms in the blood vessels, Horner's syndrome or other nerve pareses, are commonly associated with malignant infiltration. It must be emphasized that these signs

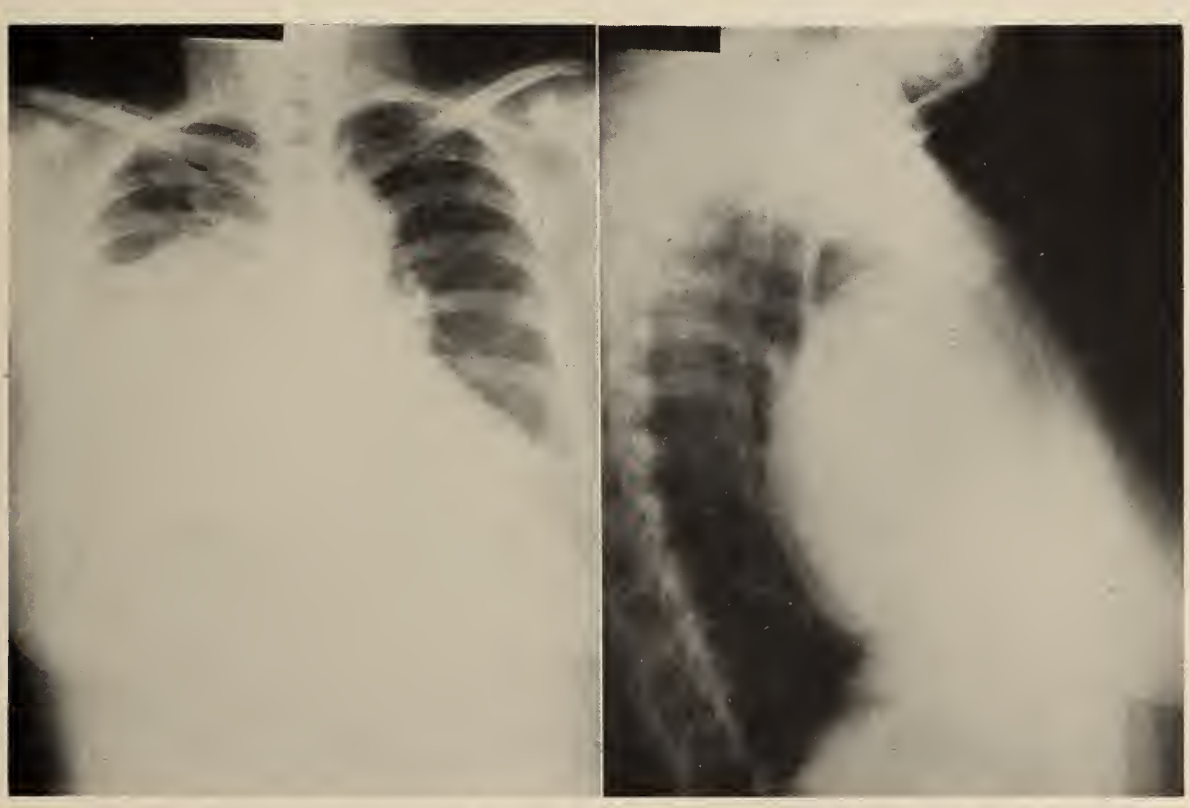


Figure 3.—Frontal and right lateral roentgenograms of a 60-year-old housewife who had been treated for heart trouble for at least ten years without roentgenographic study. She had complained of increasing dyspnea on exertion, orthopnea, and pressure in the right side of the chest. At operation, a huge dermoid cyst was removed which completely filled the right anterior thoracic cavity and extended past the midline superiorly over the first portion of the aortic arch.

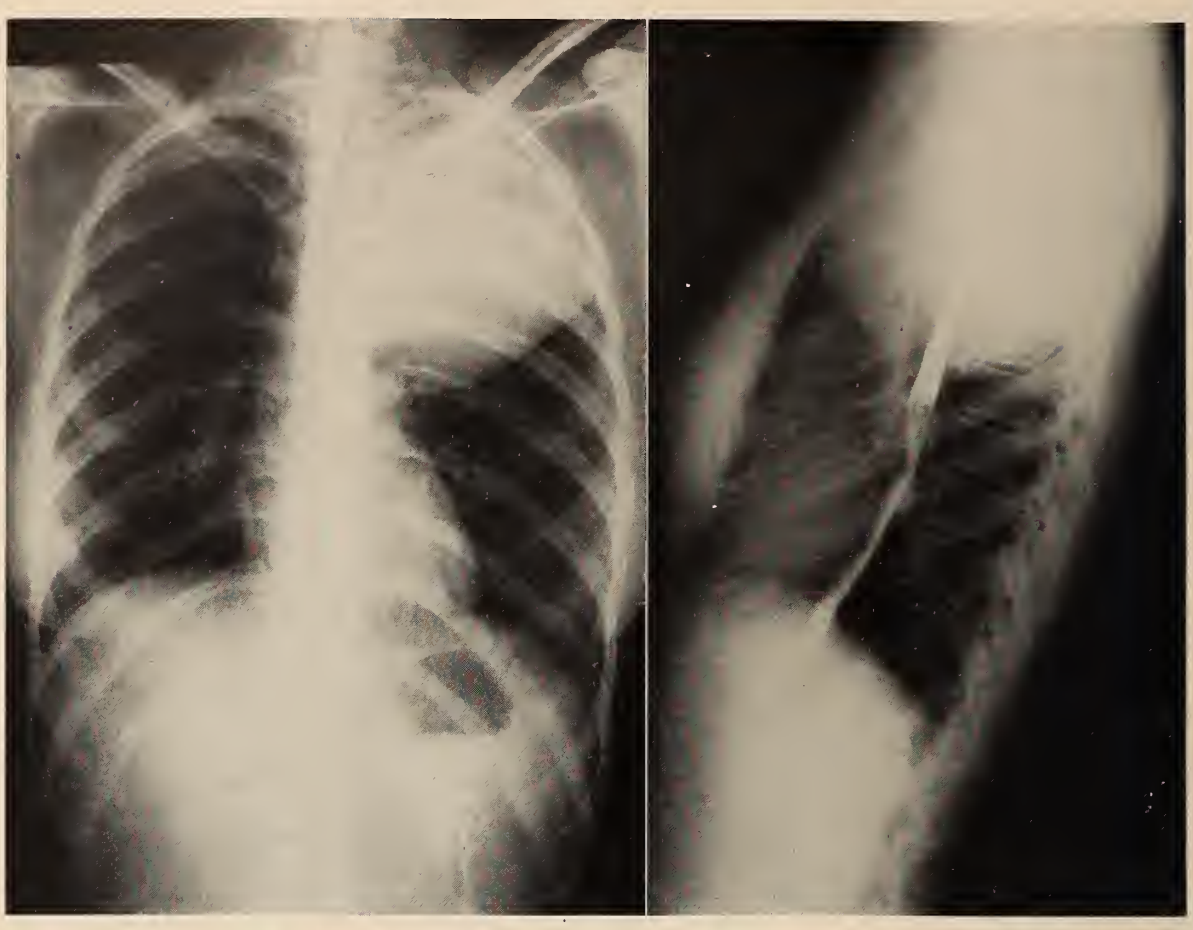


Figure 4.—Frontal and lateral roentgenograms of a 25-year-old housewife who presented the following signs and symptoms: Left Horner's syndrome, paresis of left vocal cord, dilated veins over left shoulder and breast, cough, mild dysphagia.

are not prima facie evidence of malignant disease (Figures 4 and 5). On the other hand, in the tragic circumstance of watchful waiting, symptoms may develop without a great change in the roentgen appearance of the tumor. In such circumstances, malignant degeneration must be strongly suspected.

There is no definite contraindication to operation for removal of mediastinal lymphomas. There are now reports in the literature that in several cases such tumors have been removed as encapsulated masses with no recurrences for considerable periods of time.[3] Suspected aneurysm likewise is no contraindication to exploratory operation, for if aneurysm is encountered it may be supported by cellophane wrapping;[2, 9] in rare instances a traumatic aneurysm may be resected.[14]

JUSTIFICATION FOR OPERATION

Three pitfalls await the physician who counsels inaction or roentgen therapy:

1. An appreciable percentage of mediastinal tumors undergo malignant degeneration or are malignant from the start. In fairly large collected groups of cases, more than 12 per cent of teratoid tumors of the mediastinum were malignant,[10] and neurogenic tumors have been reported malignant in as many as 37 per cent of cases. Except for those of the lymphoma group, roentgen therapy has no effect on

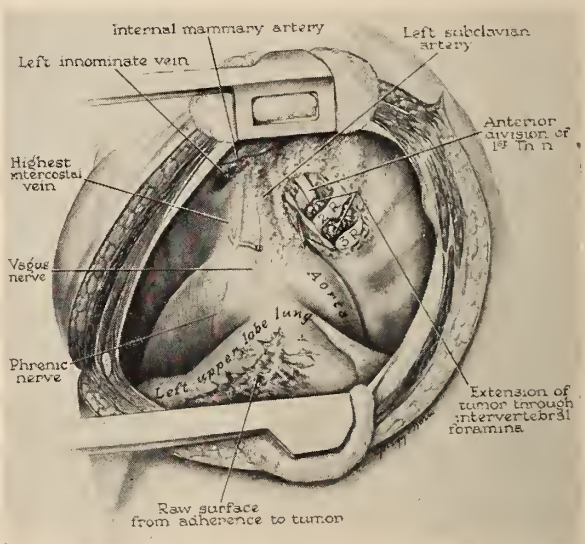


Figure 5.—Drawing at operation. A completely encapsulated and lobulated neurofibroma, 11 cm. in diameter, has been removed by morcellation. As demonstrated, the signs and symptoms were due to pressure and not to malignant infiltration.

malignant mediastinal tumors. Malignant degeneration is accompanied sooner or later by increased symptoms, but by the time such develop, surgical extirpation usually is impossible.

2. Even a tumor which remains benign histologically may become "malignant" as far as the patient is concerned because of compression of vital structures as the growth increases in size.

3. Infection may supervene, particularly in cystic tumors. The development of fistulae, empyema, and extensive fibrosis may make removal difficult if not impossible. The presence of such ineradicable suppuration is obviously life-endangering.

In fine, the risks of thoracotomy are far outweighed by the hazards of waiting. Surgical exploration and removal is the treatment of choice in nearly all cases of mediastinal tumors when they are first discovered and whether they are symptomless or not.

The type of thoracotomy depends considerably on the surgeon's training. In nearly all cases the authors use a transpleural approach by a posterior and lateral incision even if the lesion is anterior. This can be carried out at a level as high as the fourth rib or interspace. In general, the exposure is better than with an anterior approach and ribs can be more readily severed either up or down when necessary. With the posterior approach there is a better chance for accurate approximation of tissues and tight closure of the thoracic wall. Occasionally, a vertical, sternal-splitting incision may be indicated for upper midline tumors. A transverse sternal-splitting approach with deliberate entrance into both pleural cavities may be rarely indicated.

SURGICAL EXPERIENCE

The authors or their associates have now explored the chest in 52 instances of mediastinal lesions. In four cases (7.7 per cent) the lesions were malignant. Two of the 52 patients died as the result of operation. One (meningocele) bled excessively from an anomalous venous plexus during dissection;[5] the other, an infant (neurofibrosarcoma) had acute cardiac arrest at the end of operation and later died of the effects of anoxia. In the latter instance, it was observed at autopsy that the tumor, which was malignant, had begun to invade the thoracic wall.

The types of lesions encountered at operation in 52 cases are shown in Table 1.

In five cases not included in Table 1, exploration revealed diaphragmatic hernia. In two of these cases, herniated liver caused the shadow observed on x-ray films.

The classification of neurogenic tumors is undergoing revision. The authors include neurofibroma (or neurilemmoma), neuroblastoma, ganglioneuroma, and Schwannoma in this classification. Mediastinal cysts probably result from developmental anomalies. In the majority of the cases observed by the authors there were no clinical symptoms. The apparent association between meningocele and Von Rechlinghausen's disease is interesting but unexplained. Harrington[7] has employed the term "teratoid" to include dermoid tumors containing elements of one, two or all three germinal layers. Mediastinal granulomas form an interesting group and have been studied separately.[11] While those reported have been considered tuberculomas, the authors believe this etiologic classification has not been completely substantiated. In the future, careful cultural studies may prove that Coccidioides immitis or Histoplasma capsulatum may be the responsible agent in some cases. Encapsulated thymomas have been removed from four patients; in one case, two separate thymomas were excised. There has been disagreement as to whether these tumors are benign or malignant. In one case ten years have elapsed since surgical removal of a thymoma and the patient remains well. Hyperthyroidism was not a symptom in the four patients from whom thyroid adenomas were removed. In one instance, thoracotomy was necessary to free mediastinal extension of the tumor, which was then removed through the neck with the thyroid gland.

Table 1.—*Types of Mediastinal Lesions in 52 Cases in Which Thoracotomy Was Carried Out*

Benign Lesions—48	
1. Neurogenic tumor	14
2. Cyst	9
Bronchiogenic	6
Pericardial	2
Meningocele	1
3. Teratoid tumor (includes dermoid cysts)	8
4. Granuloma	4
5. Thymoma	4
Thyroid adenoma	4
Aneurysm	2
Lipoma	1
Leiomyoma (esophagus)	1
Lymphangioma (hygroma)	1
Malignant Lesions—4	
Neurofibrosarcoma	2
Intrathoracic, posterior	1
Diaphragmatic	1
Malignant thymoma	1
Squamous cell carcinoma (probably from bronchiogenic cyst)	1

The development of malignant degeneration is of grave significance. Two of the four patients who had malignant tumors are dead and a third (malignant thymoma) who was operated upon only recently had pleural implants at the time of operation. Only the patient who had primary neurofibrosarcoma of the diaphragm is still well—five years following removal of the tumor.[11]

2938 McClure Street.

REFERENCES

1. Abbott, O., Hopkins, W. A., and Leigh, T. F.: The role of angiocardiography and venography in mediastinal and paramediastinal lesions, J. Thor. Surg., 18:869, Dec. 1949.

2. Abbott, O. A.: Clinical experiences with the application of polythene cellophane upon aneurysms of the thoracic vessels, J. Thor. Surg., 18:435, Aug. 1949.

3. Blades, B.: Mediastinal tumors, Ann. Surg., 123:749, May 1946.

4. Brewer, L. A.: Tumors of the mediastinum, Am. Rev. Tuberc., 60:419, Oct. 1949.

5. Byron, F. X., Alling, E. E., and Samson, P. C.: Intrathoracic meningocele, J. Thor. Surg., 18:294, June 1949.

6. Daniels, A. C.: A method of biopsy useful in diagnosing certain intrathoracic diseases, Dis. of the Chest, 16:360, Sept. 1949.

7. Harrington, S. W.: Surgical treatment in 11 cases of intrathoracic teratomas, J. Thor. Surg., 3:50, Oct. 1933.

8. Kent, E. M., Blades, B., Valle, A. R., and Graham, E. A.: Intrathoracic neurogenic tumors, J. Thor. Surg., 13:116, April 1944.

9. Poppe, J. K.: Treatment of aortic aneurysms by wrapping with foreign body, Dis. Chest, 15:726, June 1949.

10. Rusby, N. L.: Dermoid cysts and teratomata of the mediastinum, J. Thor. Surg., 13:169, June 1944.

11. Samson, P. C., Heaton, L., and Dugan, D. J.: Mediastinal "tuberculoma," J. Thor. Surg., 19:333, March 1950.

12. Samson, P. C., and Childress, M. E.: Primary neurofibrosarcoma of the diaphragm, J. Thor. Surg., 20:901, Dec. 1950.

13. Stewart, J. S.: The roentgenologic manifestations of paramediastinal omental hernia, J. Thor. Surg., 19:399, March 1950.

14. Temple, L. J.: Aneurysm of the first part of the left subclavian artery, J. Thor. Surg., 19:412, March 1950.

15. Wiper, T. B.: Mediastinal tumors, Arizona Med., 6:28, Nov. 1949.

Antibiotics in Management of Staphylococcal Endocarditis

With Special Reference to Increasing Bacterial Resistance

David C. Levinson, M.D., George C. Griffith, M.D., and Harold E. Pearson, M.D., *Los Angeles*

SUMMARY

Eighteen patients with staphylococcal endocarditis were observed at the Los Angeles County Hospital over a 3-year period (1947-49, inclusive). Twelve died.

Bacterial sensitivity studies were carried out in 15 of the cases, and there was resistance to penicillin in ten.

Aureomycin was effective in two cases of Staphylococcus aureus endocarditis in which there was no response to penicillin therapy.

In one case of Staphylococcus aureus endocarditis the organism was resistant to penicillin and developed increasing resistance to aureomycin.

THE purpose of this paper is to evaluate the present status of penicillin and other antibiotics in the management of staphylococcal endocarditis. Since the introduction of penicillin, isolated case reports of penicillin cures of staphylococcal endocarditis have appeared in the literature.[3-9,12] During the three-year period 1947-1949, inclusive, 18 patients with staphylococcal endocarditis were observed at the Los Angeles County Hospital. In nine of the cases the etiological organism was Staphylococcus aureus, and in the remaining nine it was Staphylococcus albus. The mortality rate in this series was 66 per cent, despite penicillin therapy. Zeller and associates[13] in 1948 reported 15 cases of staphylococcal endocarditis, of which seven were caused by Staphylococcus aureus and seven by Staphylococcus albus. In the remaining case, both Staphylococcus aureus and albus were found in the blood stream. All of the patients received penicillin, and five (33 per cent) died. In view of the considerably higher mortality rate in the Los Angeles County Hospital series, an attempt was made to correlate bacterial sensitivity in vitro with the response of the patient to treatment with antibiotics in those cases for which the necessary data were available.

For many years, bacterial endocarditis had been classified as being either acute or subacute depending on the duration of illness prior to death. In the "acute" type the duration of the illness was less than six weeks and in the "subacute" type it was greater than six weeks. With the introduction of effective antibiotics it was felt that this distinction should be dropped, and that distinction should be made on the basis of causative organism. In the present series the authors were impressed by the rapid and fulminating course in the six fatal cases of Staphylococcus aureus endocarditis; all the patients were dead within three weeks after the initial onset of illness (Table 1). At postmortem examination, ulcerative vegetative endocarditis was noted in all six patients; and five had, in addition, multiple septic infarcts and abscesses of the myocardium, liver, kidney, spleen, bone, and brain. The sixth patient died of a massive cerebral embolus. In the cases of the six patients who died of Staphylococcus albus endocarditis the illness was much more prolonged, lasting for from three weeks to as long as ten months. This suggests that in the series of cases here reviewed the strains of Staphylococcus aureus were much more virulent than those of Staphylococcus albus. Additional evidence along these lines is the fact that all the Staphylococcus aureus organisms were coagulase-positive, whereas all but one culture of the recovered Staphylococcus albus organisms were coagulase-negative.

Because of the difference in virulence found in this series, the endocarditis due to Staphylococcus aureus and Staphylococcus albus will be discussed separately.

Staphylococcus Aureus Endocarditis

Fatal Cases. Of the nine patients with Staphylococcus aureus endocarditis, six died (Table 2). In Table 2 bacterial sensitivity studies are correlated with the therapeutic response. Sensitivity studies were obtained in only two of the six fatal cases, Cases 4 and 5.

Case 4 typifies therapeutic failure owing to pronounced penicillin and streptomycin resistance. A 36-year-old white woman was admitted to the hospital because of chills and fever of three days' duration. Shortly after admission, blood cultures were reported as positive for Staphylococcus aureus, coagulase-positive. Bacterial sensitivity studies showed no inhibition of bacterial growth by 180 units of penicillin per cubic centimeter of culture, or by 250 micrograms of streptomycin per cubic

Table 1.—*Duration of Illness in 12 Fatal Cases of Staphylococcal Endocarditis*

Causative Organism	No. of Cases	Duration of Course (Weeks)
Staphylococcus aureus	3	1
	1	2
	2	3
Staphylococcus albus	1	3
	1	6
	1	8
	2	12
	1	40

From the University of Southern California, School of Medicine, Departments of Cardiology and Microbiology; and the Los Angeles County Hospital.

TABLE 2.—*Bacterial Sensitivity Studies and Therapeutic Response to Antibiotics in Staphylococcus Aureus Endocarditis*

Case No.		Bacterial Sensitivity (Concentration per cc. of culture for in vitro inhibition) Penicillin (Units per cc.)	Streptomycin (Micrograms per cc.)	Aureomycin (Micrograms per cc.)	Therapy and Response
1.		0.2	....	....	Penicillin—cure.
2.		200	....	1	Penicillin—no response. Aureomycin—cure.
3.	a.	....	....	....	a. First admission, 1946. No sensitivity studies. Penicillin—cure.
	b.	130	62	1	b. Second admission, 1948. Penicillin-fast. Aureomycin—cure.
4.		180	250	....	Penicillin—died.
5.	a.	....	....	....	a. First admission, 1947. No sensitivity studies. Penicillin—cure.
	b.	0.1 Increased to 60 in 2 weeks	....	....	b. Final admission, 1948. Penicillin and sulfa drugs—died.
6.		180	8	5; increased to 40 in 10 days	Aureomycin—died.
7.		....	....	....	Penicillin and sulfa drugs, no sensitivity studies—died.
8.		....	....	....	Penicillin—died. No blood cultures. Diagnosis made postmortem.
9.		....	....	....	Penicillin, no sensitivity studies—died 24 hours after admission.
10.		....	....	....	No therapy, no sensitivity studies—died 24 hours after admission.

centimeter of culture. Two million units of penicillin were given daily by continuous intramuscular drip. The febrile course persisted and the patient died after nine days of penicillin therapy. At postmortem examination, ulcerative vegetative mitral valvulitis and minute abscesses in the myocardium, spleen, brain and kidneys were noted.

Case 5 strikingly illustrated the development of increasing resistance to penicillin during therapy. In 1947, at the time of the patient's initial admission, the diagnosis of Staphylococcus aureus endocarditis was made and the response to penicillin was dramatic. In 1948 the patient reentered with either a recurrence or a new infection. At the time the organism was found to be sensitive to penicillin, it required 0.1 unit of penicillin per cubic centimeter of culture for inhibition. After two weeks of penicillin therapy in a dosage of 1,600,000 units daily, the bacterial resistance increased so that 60 units of penicillin per cubic centimeter of culture was required for in vitro inhibition. A "septic" course persisted despite an increase to 10 million units of penicillin daily. In addition to ulcerative, vegetative mitral valvulitis, septic infarcts of the heart, liver, spleen and kidney were noted at autopsy.

There are various reports of increasing in vitro resistance of staphylococci to penicillin.[1, 2] Barber[1] in 1946 reported that 14.1 per cent of staphylococci examined were penicillin-resistant, requiring more than 10 units of penicillin per cubic centimeter of culture for in vitro inhibition. The same investigator reported that by June 1948 in the same hospital the incidence had increased to 59 per cent.

Two of the remaining four patients who died (Cases 8 and 9, Table 2) did so within 24 hours after onset of illness, and in both cases acute ulcerative vegetative aortic valvulitis was noted at autopsy. Multiple abscesses of the myocardium, liver, spleen, kidney and brain were observed in one case, and a massive cerebral embolus in the other. In Case 6 penicillin in amounts ranging from 800,000 to 2,400,000 units daily was given. Sensitivity studies were not done in this case because tests were not yet available. At postmortem examination, acute ulcerative vegetations were noted on the mitral valve, and septic infarcts of the brain, kidney and spleen were present. In Case 7, endocarditis was not diagnosed during life. The patient was treated for pneumonia and received 320,000 units of penicillin daily. At postmortem examination, acute ulcerative vegetations were observed in the aortic valve. Cultures of the vegetations were reported as Staphylococcus aureus, coagulase-positive. Multiple abscesses of the liver, kidney and bone were also present.

Increasing Resistance to Aureomycin. A fatal case of Staphylococcus aureus endocarditis which was observed by one of the authors (Griffith) at another hospital has been included in this report. The organism was initially resistant to penicillin and developed increasing resistance to aureomycin during therapy.

CASE REPORT

The patient, a 63-year-old white male physician (Case 6, Table 2) complained of chills and fever of 24 hours' duration. A blood culture was positive for Staphylococcus aureus and the patient was hospitalized. Bacterial sensitivity studies showed that either 180 units of penicillin, 5 micrograms of aureomycin, or 8 micrograms of streptomycin per cubic centimeters of culture were required for in vitro inhibition of the organism. Aureomycin was considered the drug of choice and it was given orally in a dosage of 1 gm. every four hours for two days, following which it was given intravenously in a dosage of 0.3 gm. every six hours for the next three days. When the temperature remained elevated, the dosage was increased to 0.5 gm. intravenously every six

hours. Blood cultures remained positive and 8 micrograms of aureomycin per cubic centimeter of culture was required for in vitro bacterial inhibition. The aureomycin dosage was increased to 1 gm. intravenously every six hours, and within three days the temperature returned to normal. Blood cultures were still positive, and resistance of the organism had increased so that 40 micrograms of aureomycin was required for in vitro bacterial inhibition. The patient died 11 days after the onset of illness. A large patch of ulcerating vegetation originating on the anterior median leaflet of the aortic valve and extending to involve the atrial septum was noted at autopsy. Septic infarcts were present in the spleen and kidneys.

Comment: The bacterial resistance to aureomycin in this case suggests that increasing resistance of various strains of staphylococci to aureomycin will be encountered.

Cures of Staphylococcus Aureus Endocarditis. Three of the nine patients with Staphylococcus aureus endocarditis were cured (Table 2). In Case 1, the organism was sensitive to penicillin and response to treatment with that drug was good. In case 2 the organism was extremely resistant to penicillin; 200 units per cubic centimeter of culture was required for in vitro bacterial inhibition. The patient was given 20 million units of penicillin daily, without response. By further sensitivity studies it was determined that the organism was inhibited by 1 microgram of aureomycin per cubic centimeter of culture. Aureomycin was then given in a dosage of 1 gm. every four hours, and within 24 hours the temperature was normal. The aureomycin was continued for 21 days. Repeated blood cultures then were negative for the organism. The patient in Case 3 was originally admitted in 1946, Staphylococcus aureus endocarditis was diagnosed, and remission promptly followed the giving of penicillin. Two years later the patient reentered with Staphylococcus aureus endocarditis. The organism was extremely resistant to both penicillin and streptomycin. 180 units of penicillin or 62 micrograms of streptomycin per cubic centimeter of culture was required for inhibition in vitro. When 20 million units of penicillin daily brought no response in the patient, aureomycin sensitivity studies were done and the organism was found sensitive to 1 microgram of aureomycin per cubic centimeter of culture. Aureomycin was given, 1 gm. every four hours, and dramatic improvement and cure followed.

Staphylococcus Albus Endocarditis

Fatal Cases. In nine of the 18 patients with staphylococcal endocarditis, the etiological organism was Staphylococcus albus. Six of the nine patients died (Table 3). In Table 3 bacterial sensitivity studies are correlated with the therapeutic response. Although in one of the cases in which death occurred the organism was sensitive to penicillin, which effected a remission, the patient died of heart failure during a recurrence. In Case 15 the organism was moderately resistant to penicillin; 1 unit of penicillin per cubic centimeter of culture was required for in vitro bacterial inhibition. The patient received penicillin, but died four days after onset of therapy. Postmortem examination was not done, but it was thought that the patient had a cerebral mycotic aneurysm which had ruptured. Aureomycin was not available for sensitivity studies or treatment in any of these fatal cases. Case 19 (Table 3) is an example of failure of treatment owing to increased bacterial resistance to penicillin. One week after the patient was admitted a blood culture was reported positive for Staphylococcus albus (coagulase-positive). Six subsequent cultures were also positive. In sensitivity tests the organism was not inhibited in vitro by 100 units of penicillin per cubic centimeter of culture, or by 40 mg. of sulfadiazine per 100 cc. Growth was inhibited by 25 micrograms of streptomycin per cubic centimeter of culture. It was calculated that this would require 3 gm. of streptomycin every three hours to obtain a therapeutic level. Despite administration of sulfadiazine and 1 million units of penicillin daily, the fever persisted, and the course was progressively downhill. The patient became comatose and died on the 29th hospital day. Permission for a postmortem examination was refused.

Cures. Three patients with Staphylococcus albus endocarditis were cured (Table 3). In two of these cases (Cases 11 and 12) the organism was peni-

TABLE 3.—*Bacterial Sensitivity Studies and Therapeutic Response to Antibiotics in Staphylococcus Albus Endocarditis*

*Case No.	Bacterial Sensitivity (Concentration per cc. of culture for in vitro inhibition) Penicillin (Units per cc.)	Streptomycin (Micrograms per cc.)	Aureomycin (Micrograms per cc.)	Therapy and Response
11.	.1	....	....	Penicillin—cure.
12.	.5	1	2	Penicillin—cure.
13.	3	....	1	Penicillin and aureomycin—cure.
14. a.	.1	....	....	a. (Initial admission). Penicillin; sterile cultures for two weeks only.
b.	.2	....	....	b. Penicillin for recurrence; heart failure—died.
15.	1	....	....	Penicillin; died four days after admission.
16.	6	....	....	Penicillin—died.
17.	12	250	....	Penicillin—no response; died.
18.	12	30	....	No therapy—died (heart failure).
19.	100	25	....	Penicillin—no response; died.

*Cases 11 to 17—Staphylococcus albus, coagulase-negative; Case No. 18—Staphylococcus albus, coagulase-positive.

TABLE 4.—*Bacterial Sensitivity Studies and Response to Antibiotics in Staphylococcus Albus Bacteremia*

Diagnosis	Bacterial Sensitivity* (Concentration per cc. of culture for in vitro inhibition) Penicillin (Units per cc.)	Aureomycin (Micrograms per cc.)	Bacitracin (Units per cc.)	Therapy and Response
1. Septicemia	180	2	....	Penicillin—no response. Aureomycin—cure.
2. Septicemia	6	2	8	Penicillin—no response. Aureomycin—cure.
3. Mastoiditis	80	2	2	Aureomycin—cure.

*Cases 1 and 2—Staphylococcus albus, coagulase-negative; Case 3—Staphylococcus albus, coagulase-positive.

cillin-sensitive, and when the drug was given to the patient there was remission of the disease. In Case 13 the organism was resistant to penicillin but relatively sensitive to aureomycin (see Table 3). Therapy consisted of penicillin in a dosage of 2 million units every three hours intramuscularly and 1 gm. of aureomycin every six hours. Within 24 hours after the beginning of therapy the temperature became normal. After four days, aureomycin was distinued because of severe nausea and vomiting. Penicillin was discontinued after three weeks. Repeated blood cultures thereafter were negative.

Three cases of Staphylococcus albus bacteremias have also been included in this report, as in all cases there was pronounced bacterial resistance to penicillin but sensitivity to aureomycin (Table 4). In two cases there was a dramatic response to aureomycin after penicillin therapy had failed. In the third case studies of sensitivity of the organism to both penicillin and aureomycin were promptly carried out, and as a result aureomycin therapy was initiated early.

DISCUSSION

Staphylococcal endocarditis as observed at the Los Angeles County Hospital has differed sharply from the more common streptococcal endocarditis. The mortality rate over a three-year period was 66 per cent in the cases of staphylococcal infection and 20 per cent in cases in which streptococci were the infecting organisms. This pronounced difference in mortality rate is attributed to the high incidence of penicillin-resistant staphylococci grown on cultures in the group. A contributing factor to the high mortality rate was that in the patients who died of Staphylococcus aureus endocarditis the course of the disease was rapid and fulminating, with early development of septic infarcts and abscesses in the myocardium, kidney, spleen, brain, etc.

In vitro bacterial sensitivity studies were done in 15 of the 19 cases reviewed. In ten cases (66 per cent) the organism was relatively resistant to penicillin; from 1 to 200 units of penicillin per cubic centimeter of culture was required for in vitro inhibition. Studies to determine aureomycin sensitivity were done in four cases in which the organism was penicillin-fast. In three cases the infecting agent was sensitive to the drug; 1 microgram of aureomycin per cubic centimeter of culture inhibited growth in vitro. Two of the four patients had Staphylococcus aureus endocarditis (Cases 1 and 2) and there was no response to large doses of penicillin. Both were afebrile 24 hours after administration of aureomycin was started. In one case (Case 6) increasing resistance to aureomycin developed during therapy. Initially 5 micrograms of aureomycin per cubic centimeter of culture was required for in vitro inhibition. At the end of ten days of aureomycin therapy the amount necessary had increased to 40 micrograms.

The sensitivity studies and therapeutic responses herein reported suggest that aureomycin may be effective when bacterial resistance to penicillin is encountered. The experience in Case 6 indicates that staphylococcal resistance to aureomycin may develop. There seems to be a synergetic action between penicillin and streptomycin. No renal blocking agents such as caronamide were used in this series of patients.

REFERENCES

1. Barber, M., and Rozwadowska-Dowzenko, M.: Infection by penicillin-resistant staphylococci, Lancet, 2:641, Oct. 23, 1948.

2. Bondi, A. J. R., and Dutz, C. C.: Penicillin resistant staphylococci, Proc. Soc. Exper. Biol. and Med., 60:55, Oct. 1945.

3. Dolphin, A., and Cruikshank: Penicillin therapy in acute bacterial endocarditis, Brit. M. J., 1:897, June 30, 1945.

4. Glaser, R. J., Smith, R. O., Harford, C. G., and Wood, W. B.: The treatment of bacterial endocarditis with penicillin, J. Lab. and Clin. Med., 31:291, March 1946.

5. Guest, C. M., and Harrison, F. F.: Staphylococcus aureus endocarditis, The Amer. J. of Med., 5:908, Dec. 1948.

6. Harford, C. G., Martin, S. P., Hageman, P. O., and Wood, W. B.: Treatment of staphylococcic, pneumococcic and other infections with penicillin, J.A.M.A., 127:253, Feb. 3 and Feb. 10, 1945.

7. Harris, H. R.: A case of staphylococcal bacterial endocarditis successfully treated with an intermittent course of penicillin, M. Press, 215:130, Feb. 20, 1946.

8. Howells, L., Hughes, R. R., and Rankins, R.: Staphylococcus pyogenes septicaemia treated with penicillin, report of 2 cases. Brit. M. J., 1:901, June 30, 1945.

9. Hoyt, R. E., and Bissell, F. E.: Staphylococcus aureus endocarditis, treatment with penicillin. California & West. Med., 63:226, Nov. 1945.

10. MacNeal, W. J., Poindexter, C. A., and Marty, F. N.: Apparent arrest of staphylococcal endocarditis with penicillin, Am. Heart J., 29:403, March 1945.

11. Nichols, D. R., and Meedham, G. M.: Aureomycin in the treatment of penicillin-resistant staphylococcic bacteremia, Proc. Staff Meetings, Mayo Clin., 24:309, June 8, 1949.

12. Wilhelm, F., Hirsh, H. L., Hussey, H. H., and Dowling, H. F.: The treatment of acute bacterial endocarditis with penicillin. Ann. Int. Med., 26:221, Feb. 1947.

13. Zeller, W. W., Hirsh, H. L., Dowling, H. F., Hussey, H. H., and Robinson, J. A.: Treatment of bacterial endocarditis with penicillin and streptomycin, M. Ann., Dist. of Columbia, 17:21, Jan. 1948.

Private Practice-Health Department Relationships

How Can They Be Improved?

Edward Lee Russell, M.D., *Santa Ana*

THE preparation of this paper has not been a pleasant task. I have written it reluctantly. My reluctance was due to the fear that it might be misunderstood by that fine group, the physicians of my own county, in whose concept of the mutual relationships and responsibilities of private practice and public health I can find little to criticize. Some conclusions that I have reached cast doubt on the wisdom of certain announced policies of the organized profession of which we are all a part. I admit to some presumption in questioning the judgment of men whose identity I do not know but who are presumably wiser and probably older than I am.

An honest, courageous and objective approach to the problems of the medical profession is essential if it is to advance as a profession and fulfill its responsibilities to the public. Deference and esteem must not be permitted to prevent a critical examination of the strengths and weaknesses of the profession of medicine and the interrelationships of physicians in various fields of practice. No one has better stated the need for a lively exchange of ideas and points of view than William Osler:[3]

"No class of men needs friction so much as physicians; no class gets less. The daily round of a busy practitioner tends to develop an egoism of a most intense kind, to which there is no antidote. The few set-backs are forgotten, the mistakes are often buried, and ten years of successful work tend to make a man touchy, dogmatic, intolerant of correction, and abominably self-centered. To this mental attitude, the Medical Society is the best corrective, and a man misses a good part of his education who does not get knocked about a bit by his colleagues in discussions and criticisms."

Every physician who examines the national scene today is amazed and alarmed at the situation we find ourselves in. At the very moment that medical scientists are heaping life-saving discoveries into the lap of suffering humanity, the purveyors of these blessings are being abused and maligned as exploiters of human suffering. In a word, it seems that we have never seen a time when medical science has stood so high, and the medical profession stood so low in public esteem. There is reason to suspect that those who most actively support the complete socialization of medicine recognize that "a house divided against itself cannot stand" and are, therefore, anxious to promote misunderstanding and distrust within our ranks. Barriers built by well-meaning persons within our profession lend more than ordinary "aid and comfort to the enemy." Broad understanding, mutual respect, and common objectives are, now, more urgently needed than ever.

As preface to discussion of current problems, it is necessary to look briefly into the past of American medicine. Shortly after the beginning of the "era of discovery" which began with Pasteur and Koch, the halls of American medicine rang with the debate on the question of whether the American medical profession should be organized along guild lines or should be a democratic institution. The proponents of guild practice believed that it was futile to attempt to bring the advantage of medical science to all the people and urged that the training of physicians be restricted to the number that could be supported by those able to pay—much as is done in Cuba and some other Latin-American countries today. The proponents of democratic organization held that as a part of the world's greatest and most democratic country, the American medical profession could do no less than assume the responsibility for bringing the benefits of medical science to all the people. To approach this ambitious objective, medical schools were to accept and train students up to their capacity until every community in the land was served by competent physicians. Medical texts were to be available to all, either in libraries or by purchase, and physicians were to minister to all without regard for ability to pay. Eventually, the forces of democracy prevailed and the medical profession embarked on the effort to serve all the people. At that moment, socialized medicine was born in the sense that medicine was recognized as a social science.

During this same period, the discoveries which we now know as the foundation of modern bacteriology were being given to the world. With each new discovery the imagination of the profession and of the public at large was fired with the possibilities for benefit in the new knowledge. The public attitude toward disease changed. It was realized that affliction with certain diseases was no longer the inexorable fate of mankind, or the wage of original sin, but that diseases were tangible enemies which could be defeated with proper organization and adequate finance.

A concomitant result of change in attitude was the development known as the voluntary health agency. The Gunn-Platt[1] report, "Voluntary Health Agencies—an Interpretive Report," published in 1945, summarizes the beginnings, as follows: "There is, first of all, the American tradition of freedom—freedom of expression and inquiry, freedom of association and initiative. The second factor is our

Presented before the Section on Public Health at the 79th Annual Session of the California Medical Association, April 30-May 3, 1950, San Diego.

common aggressive attitude toward all sorts of problems and situations. We are generally dynamic and pragmatical; we prefer doing something to merely talking about it, to merely waiting for something to happen." Quoting from this report still further: "The voluntary health movement has had its full flowering in the United States. Nowhere else in the world has this type of service developed to such extent or in such variety. It is truly an extraordinary expression of the goodwill and neighborliness of the American people, their generosity and their genius for organization." More about these organizations later. (The Gunn-Platt report should be required reading for all American physicians.)

The second significant result of the "age of discovery" in bacteriology was the resurgence of public health and the birth of preventive medicine. As Sir William Osler[5] said in 1910: "A blundering art until thirty or forty years ago, preventive medicine was made a science by the discovery of the causes of many of the serious epidemic diseases." These discoveries plus the new knowledge of sanitary science transformed the health officer from a witch hunter to a scientist almost overnight; and, under the strong stimulus of the voluntary health agency, public health grew by leaps and bounds. Again quoting the Gunn-Platt report: "The voluntary health agencies, acting in the spirit of our kind of democracy, have often found themselves undertaking to guard the common interest by defending and promoting, and when necessary criticizing the public health institutions and officials."

To summarize, at half century we live in a society which is greatly interested in medicine, in the alleviation of human suffering, in the social implications and economic penalties of disease and, particularly, in what mankind can do to improve its lot through preventive medicine and public health. This is the millennium which medical statesmen of 1900 dreamed about and wished for. What have we done with the opportunity? Accomplishments such as the reduction in mortality from the communicable diseases, reduced infant and maternal mortality and a steadily increasing span of life are noteworthy. But have we lived up to the best that's in us? Have we been petty and contentious; jealous and arbitrary? Individually and collectively, we are all candidates for public approval. Have we conducted ourselves as though we desired and hoped to receive this approbation or have we been hostile, critical and obstructive?

Let us ask certain questions of the health officers, first. These questions will be embarrassing to some of them.

1. In planning the department's program, have you given major emphasis to the "Basic Six"? (Vital statistics, communicable disease control, maternal and child health, environmental sanitation, health education, and public health laboratory facilities.)

2. Have you allowed yourself to be sold on various special programs to the detriment of any basic services?

3. Have you worked diligently for adequate staff and physical facilities?

4. Have you devoted yourself to the job of educating, advising and guiding the various voluntary health agencies of your community to the end that their resources are more logically and more effectively utilized?

5. Do you and your staff recognize your responsibility to give every assistance to the private (family) physician who is "the man up front" in the battle to protect the public's health?

6. Do you and your staff realize that public confidence, respect and esteem are not your right by virtue of position but must be purchased with competent service and devotion to the common good—often "above and beyond the call of duty"?

And now, in turn, the private practice of medicine should provide more acceptable answers to the following questions:

1. Have you interested yourself in your health department (its personnel, its facilities and its services) and have you actively cooperated with it in the control of communicable disease?

2. Do you actively support your health officer in his efforts to obtain better personnel, modern facilities, more adequate budgets, or are you passive and inactive in such matters?

3. Is your health officer an ex-officio member of your society's board of managers? If he is capable, he will welcome your advice; if he is incompetent, he needs your help.

4. Is the medical citizenship at local level consistent with state and national policy? Remember that "high-sounding phrases" not supported by appropriate action are interpreted as duplicity by the public.

5. Do you actively participate in the work of the voluntary health agencies—attending regularly, serving on advisory boards, aiding and guiding them to more logical programs? Remember that confidence and goodwill for yourself and the profession can be built only in this way.

6. Do you actively participate in all efforts to establish community health councils, or their equivalent, which are designed to evaluate health programs and promote efficiency and eliminate waste in this field? It is difficult to understand why this activity has had so little effect at local level.

In closing, may I express my surprise at the conflict between Point 9 of the National Health Program,[3] as adopted by the Board of Trustees and the Council on Medical Services of the American Medical Association on February 14, 1946, and the attitude of the California Medical Association toward voluntary welfare agencies.

Point 9 of the National Health Program reads as follows:

"9. The services rendered by volunteer philanthropic health agencies such as the American Cancer Society, the National Tuberculosis Association, the

National Foundation for Infantile Paralysis, Inc., and by philanthropic agencies such as the Commonwealth Fund and the Rockefeller Foundation and similar bodies have been of vast benefit to the American people and are a natural outgrowth of free enterprise and democracy that prevail in the United States. Their participation in a national health program should be encouraged, and the growth of such agencies when properly administered should be commended."

By contrast, the Resolution on Voluntary Welfare Agencies[2] adopted by the Council of the C.M.A. November 20, 1949, reads as follows:

"Resolved: That the California Medical Association on and after July 1, 1950, shall require review by the Council of all programs of the above type [those conducted by voluntary agencies] which are conducted in this state and which depend on the services of the medical profession for their successful operation, said review to be obtained within six months of the effective date of this resolution."

Item 1 of the policies recommended by C.M.A. for voluntary agencies reads in part:

"There should be an adequate number of physicians on the governing board of the agency in order to render sound medical guidance. There should be a segregation of functions of the board, and that portion of the board or subcommittee of the board dealing with medical problems should have at least 50 per cent of its members chosen from practicing physicians licensed in the territory or state in which the agency functions or proposes to function."

As public relations, the resolution strikes the author as the way *not* to "win friends and influence people." We cannot "require" review of anything.

As to the recommendation that an "adequate number of physicians" sit on the governing boards of these agencies, may I say that the fine public-spirited citizens who serve on these boards have tried everything short of kidnapping to get doctors to serve on boards and medical advisory committees. Why don't we admit frankly that as physicians we are not living up to the responsibilities of democratic citizenship? The last meeting of the medical advisory committee of one of our principal voluntary health agencies in Orange County was attended by the author and one other physician. The answer to the problems of the voluntary health agency is not to be found in angry tirades and absent treatment.

A word of warning to all of us comes from the pen of Sir William Osler:[6] "Professional work of any sort tends to narrow the mind, to limit the point of view, and to put a hallmark on a man of a most unmistakable kind."

Court House Annex.

REFERENCES

1. Gunn, S., and Platt, P. S.: Voluntary Health Agencies —An Interpretive Report, Ronald Press, 1945.

2. Minutes of Council of C.M.A., Calif. Med., 72:251, April 1950.

3. National Health Program of A.M.A., J.A.M.A., 130:64, Mar. 9, 1946.

4. Osler, W.: Functions of a state faculty (society), Maryland Med. Jour., 1897.

5. Osler, W.: Man's Redemption of Man, Address at Univ. of Edinburgh, 1910.

6. Osler, W.: The master word in medicine, Montreal Med. Jour., 1902.

Funnel Chest (Pectus Excavatum) in Infancy and Adult Life

A. Lincoln Brown, M.D., and Orrin Cook, M.D., *San Francisco*

SUMMARY

Funnel chest, unless corrected, may lead to cardiorespiratory distress or psychic problems or both. Since operation to correct the deformity is relatively simple in infancy and much more extensive if done later, early surgical intervention is indicated. If the condition is not noted until the patient is beyond infancy, cardiorespiratory studies will aid in determining the advisability of operation.

THE rhythmic inspiratory retraction of the distal portion of the sternum and lower thoracic cage, rather frequently noted in infancy, may disappear as the infant develops. Persistence of this physiologic phenomenon results in the permanent inward displacement and fixation of the inferior segments of the sternum and adjacent cartilages and ribs. This deformity is spoken of as funnel chest, trichterbrust or pectus excavatum.

In a previous communication[1] one of the authors outlined simple corrective measures to be employed in infancy, and it was suggested that those measures "should at least prevent the full development of the deformity, thereby obviating the necessity of a major procedure later in life." Fourteen years' experience by the authors and the experience of other investigators[4, 6] have confirmed that hope. At the

From the Thoracic Surgical Division, Mt. Zion Hospital, San Francisco.

Presented before the Section on Pediatrics at the 79th Annual Session of the California Medical Association, April 30-May 3, 1950, San Diego.

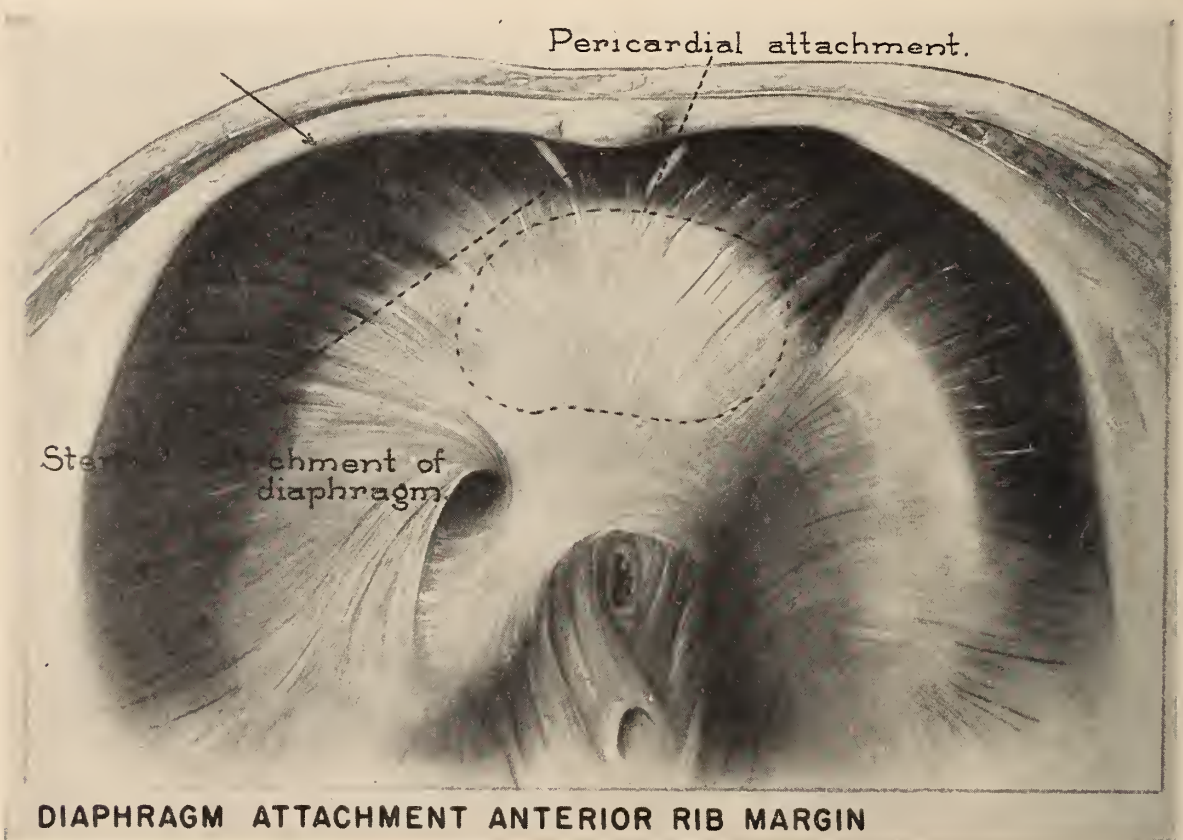


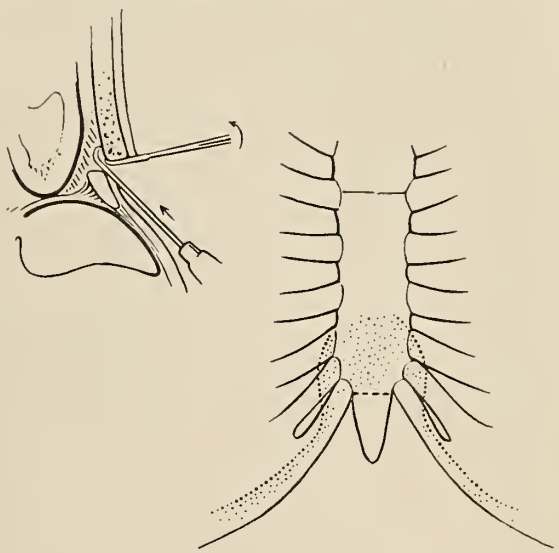
Figure 1.—View of the diaphragm from above, showing the direction of the muscle fibers. It is to be noted that the majority of the anteroposterior pull is directly beneath and adjacent to the sternum.

time of the communication mentioned, the author was concerned only with the correction of the visible deformity. Since then, however, it has been observed that persistence of the deformity may cause psychic injuries which are often of far greater gravity than the structural abnormality. Although the visible deformity, and to a great extent any attendant psychological problem, can be corrected by procedures after infancy, such measures seem never to fully repair the underlying injuries (cardiorespiratory). Since the operative procedure in infancy has thus far proved not only to be safe and simple but also to achieve the desired results, operation early in life seems advisable.

A common misconception is that rickets is an etiologic factor in funnel chest. Actually funnel chest has never been reported in an authenticated case of rickets. The authors believe pectus excavatum to result from a neuromuscular imbalance whereby the anteroposterior fibers of the diaphragm in particular are overstimulated (Figure 1). The entire process may perhaps be likened to pylorospasm of infancy. The distal end of the sternum is retracted, carrying along with it the contiguous cartilages and ribs. Finally the diaphragm becomes permanently shortened in its anteroposterior diameter, thereby retaining the sternum in a depressed state, and as growth progresses, the cartilages and ribs permanently conform to the retracted position of the sternum. The retraction of the anterior chest wall decreases the anteroposterior diameter of the chest, produces pressure upon or displacement of the heart, pressure upon the mediastinal vessels and structures, a decrease in the volume of the thoracic cage and an exaggerated dorsal curve with apparent abdominal protuberance. Funnel chest is commonly associated with congenital or hereditary defects. The cardiorespiratory manifestations are rarely if ever noted in infancy. When they do ensue, they tend to be more severe in those instances in which the heart is fixed beneath the sternal depression.

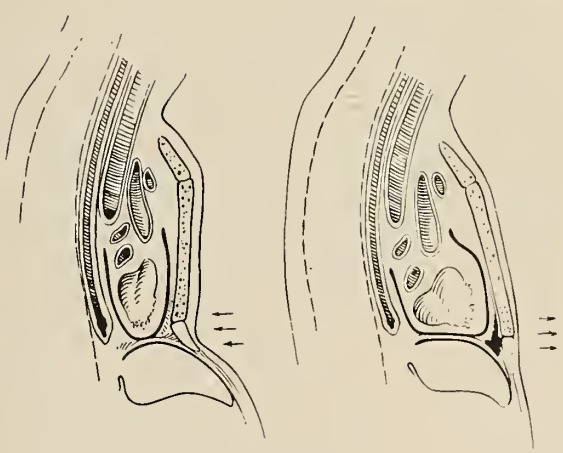
The indicated surgical procedure in infancy is now obvious—free the distal sternum from the pull of these overstimulated muscle fibers (Figures 2 and 3). The junction of the sternum and xiphoid is transected along with the substernal ligament. Then the sternal and immediately adjacent cartilaginous and rib attachments of the diaphragm are detached with the aid of a periosteal elevator. This permits the diaphragm to lengthen in its anteroposterior diameter and prevents the sternum from being pulled upon. The entire procedure is carried out through an incision of about 3 to 4 cm. and requires approximately ten minutes. To attain a satisfactory result this minimal operative interference must be boldly performed (Figures 4 and 5).

Operative interference in infancy is simple and obviates a major surgical procedure in later life. Experience has shown that the optimum time for the simple operation is when the patient is approximately 18 or 20 months of age. By then it is reasonably certain that the condition will persist, yet no fixation has taken place. In cases in which the simple operation was not done until after the end of the second year, results usually were unsatisfactory. The authors wish to stress, however, that their advocacy of early intervention is not primarily because of the greater magnitude of operation re-



SEPARATION OF STERNAL AND LOWER ANTERIOR RIB ATTACHMENTS OF DIAPHRAGM

Figure 2.—Operative procedure in infancy. The dotted area shows approximately the extent of the area from which the attachment of the diaphragm should be freed.



RELATION OF PARTS BEFORE AND AFTER SEPARATION OF ANTERIOR DIAPHRAGM ATTACHMENTS

Figure 3.—Diagrammatic representation of the relief of the retraction of the distal end of the sternum and the lengthening of the diaphragm in the anteroposterior diameter after operation.

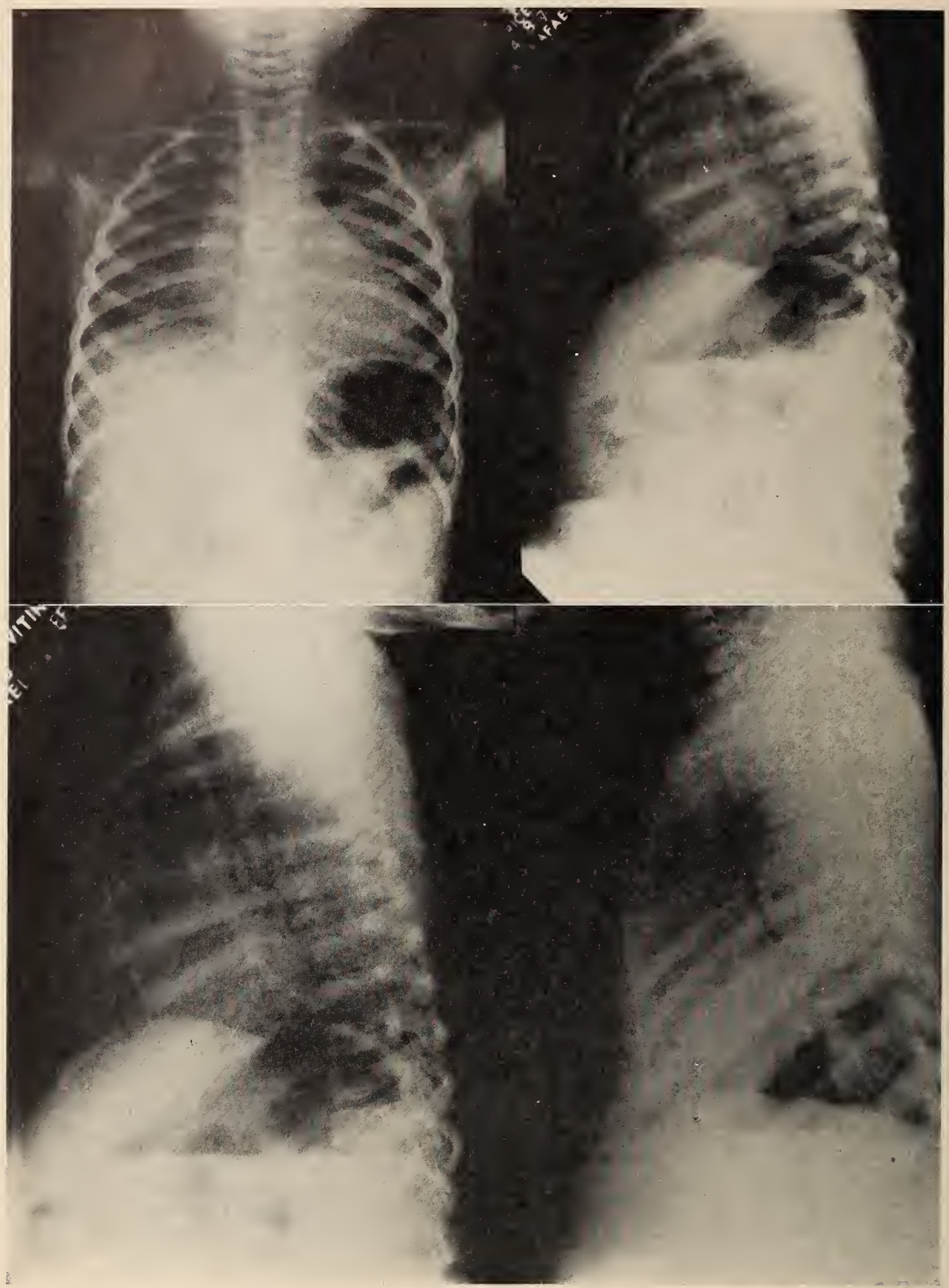


Figure 4.—*Upper:* X-ray films of patient 20 months of age, showing heart in mid-position and retraction of sternum pressing directly thereon. *Lower:* Comparative x-ray films before and after operation, showing release of sternum.

Figure 5.—Patient (Figure 4) before and after operation.

quired later, but because of sequelae which often ensue and coexist with fully developed funnel chest. Although some persons who have the deformity may have no sequelae, the majority do have resulting infirmities which cripple them to a greater or lesser extent and seriously shorten life expectancy.

During the past two years the authors have made cardiorespiratory studies[2] along the lines of those suggested by Cournand[3] which bear this out. Of the adults with funnel chest who were studied, more than 70 per cent had abnormal electrocardiogram tracings (altered axis deviation, although usually present, was not included as an abnormality in arriving at that percentage figure).

The maximum breathing capacity (and this proved to be the simplest and most informative test of cardiorespiratory efficiency) averaged less than 50 per cent of normal in the series. Interest-

Figure 6.—Photographs of patient, showing condition before operation, immediately after operation and 14 years later.

ingly, it was noted that in borderline cases—those in which there was fully developed deformity of the chest but no cardiorespiratory symptoms—there was sometimes a lowered maximum breathing capacity. Further, these same patients in a matter of six to twelve months became conscious of some respiratory embarrassment. Comparison of preoperative and postoperative maximum breathing capacity determinations gives a working index of the benefits of operative intervention in this regard. In the authors' series an average increase of about 35 per cent was observed.

The cardiorespiratory disease simulates and may finally become true cor pulmonale. The symptoms usually appear toward the end of the second decade or during the third decade of life. They are then of such nature as to be at least incompletely reversible.

In five instances in which psychic factors were the indication for correction of the deformity, operation satisfactorily solved the problems. Two of the patients, one male and one female, had delayed marriage because of embarrassment over the malformation. Another patient, a girl 15 years of age, was completely asocial and unhappy before the deformity was corrected. Two young men who felt unable to join their fellows in any kind of recreation in which the chest was bared were relieved of this embarrassment. Robb[6] reported similar experience, and Lester[4] reported psychic problems even in children four or five years of age. In no case observed by the authors has the operative scar been of psychic significance.

490 Post Street.

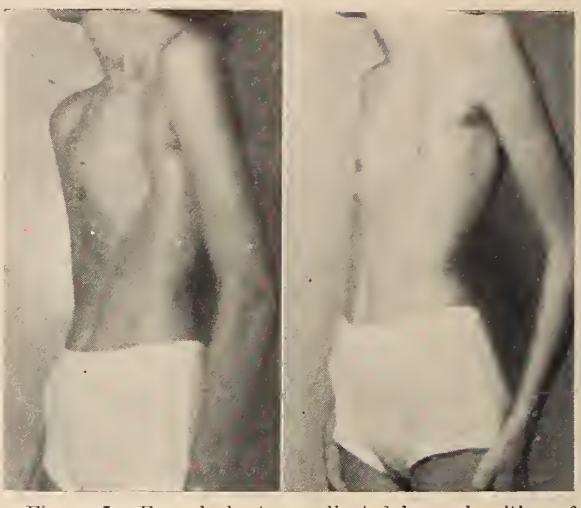


Figure 7.—Funnel chest complicated by malposition of the diaphragm on the right and displacement of the heart into right upper chest, treated by modified operation.

REFERENCES

1. Brown, A. L.: Pectus excavatum (funnel chest), Jl. of Thoracic Surg., 9:164-184, Dec. 1939.

2. Brown, A. L., and Cook, O. S.: Presented at 1950 Session, American College of Chest Physicians.

3. Cournand, A., and Richards, D. W., Jr.: Am. Rev. Tuberc. 44:26-41, July 1941.

4. Lester, C. W.: Funnel chest and allied deformities of the thoracic cage, Jl. of Thoracic Surg., 19:507-522, April 1950.

5. Lester, C. W.: Funnel chest: Its cause, effects, and treatment (to be published).

6. Robb, D.: Personal communication.

Figure 8.—Preoperative and immediately postoperative x-rays showing partial correction of scoliosis and elevation of the left shoulder, increase in capacity of the left thoracic cage.

The California Tumor Registry

Lester Breslow, M.D., James W. Ellis, M.D., Martha C. Eaton, Sc.M., and Goldy D. Kleinman, M.A., *Berkeley*

SUMMARY

The California Tumor Registry, in which 71,215 cases have been entered, provides data for professional and public education which is specific to the state. It has suggested leads for epidemiological investigation of cancer. Participating agencies are assisted in maintaining adequate follow-up systems through annual listing of cases by the State Department of Public Health and removal from the list of cases in which death occurs. Among the first cases analyzed, the diagnosis was confirmed microscopically in 70.6 per cent. Only 36.2 per cent of patients had visited a physician within two months after onset of symptoms. Survival of patients with cancer is compared with their expectancy calculated from life-tables, thus taking account of deaths from causes other than cancer.

THE California Tumor Registry was initiated in 1947 by the State Department of Public Health with the support of the Cancer Commission of the California Medical Association, the Association of California Hospitals and the California Associations of Medical Record Librarians. It is based upon voluntary reporting of cancer cases and follow-up information on standard forms by participating hospitals, clinics, and physicians. The registry roster is checked against the vital statistics index of the State Department of Public Health so that the death of any patient (from any cause) will be known. Participating agencies report follow-up annually on all patients not known to be dead.

At present, cases are reported by 37 hospitals, both public and private, representing 43.7 per cent of the beds for acutely ill patients in the larger general hospitals in the state—that is, institutions having 50 or more beds. These participating hospitals are located in 12 counties. All except one of the teaching hospitals in the State are included. Reports are also received from a few clinics and physicians in private practice. As of April 24, 1950, reports received from all participating agencies totaled 71,215.

The registry provides a valuable source of information, specific to California, for public and professional education. It suggests leads for epidemiological investigation. It assists in the establishment and maintenance of adequate medical follow-up systems: It aids in the objective evaluation of cancer control programs.

The data to be presented are limited to the 1942-1948 reports from ten hospitals which have completed reporting the cases of all patients admitted for cancer during that period. The information on the form reported to the Tumor Registry summarizes the data on each patient during his first admission for cancer. There were 21,341 unduplicated cases in this series. In 15,059 cases (70.6 per cent) the diagnosis was microscopically confirmed. Some hospitals report questionably malignant as well as clearly malignant types of neoplasm and other hospitals report only clearly malignant types.* Among the 15,059 microscopically confirmed cases in the series, there were 11,502 neoplasms of the clearly malignant types—the types reported by all hospitals. The major portion of the following analysis is restricted to these 11,502 cases—a series uniform as to types of neoplasm included and valid through confirmation of diagnosis by pathologic examination.

In public and professional education concerning cancer extensive use has been made of mortality statistics. Although helpful, such data do not give the full story. For example, mortality statistics cannot be used to determine the relative incidence of cancer in the various sites of the body. Table 1 shows the relative incidence of cancer in certain accessible sites compared with deaths due to cancer of the same sites. It will be noted that cancer of the skin and other accessible sites shows up more prominently in the reported cancer cases than in the cancer deaths. If neglected, cancer of the accessible sites results in death just as certainly as does cancer of the non-accessible sites. Hence, this table suggests that some patients with cancer of the accessible sites are being treated successfully—that is, they do not die of cancer. From this, it is ap-

The work reported herein was suported by a cancer control grant from The National Cancer Institute, U. S. Public Health Service.

From the California State Department of Public Health, Berkeley.

Presented before the Section on Public Health at the 79th Annual Session of the California Medical Association, April 30-May 3, 1950, San Diego.

* Reportable types are as listed in Standard Nomenclature of Disease and Standard Nomenclature of Operations, American Medical Association, Chicago, Ill., March 1948, pp. 87-91, 135, 249, 261; types are specified as malignant according to the Manual of the International Statistical Classification of Diseases, Injuries, and Causes of Death, Sixth Revision, World Health Organization, Geneva, Switzerland, 1948, pp. 75-79.

TABLE 1.—*California Tumor Registry, 1942-1948: Percentage Distribution of Reported Cancer Cases and Cancer Deaths, Three-Year Average 1946-1948, for Selected Sites.*

Selected Sites	All Reported Cancer Cases	Microscopically Confirmed Cancer Cases	Cancer Deaths*
All sites:			
Number	21,341	11,502†	14,233
Per cent	100.0	100.0	100.0
Buccal cavity and pharynx	5.0	7.1	2.6
Rectum	6.1	8.0	5.4
Breast	11.6	10.5	10.0
Cervix uteri	8.5	10.5	4.1
Skin	8.7	13.0	1.7
All other sites	60.1	50.9	76.2

*State of California, Department of Public Health, Vital Statistics Records.

†Represents types of malignant neoplasm reported by all hospitals in this series.

parent that the actual incidence of cancer is not reflected in mortality data.

One of the most common misconceptions about cancer is that it is a disease exclusively of older people. It must be acknowledged that not only the public but even some physicians minimize the significance of cancer danger signals in young people. No one is too young to have cancer. Table 2 shows that cancer occurs at all ages. During the early and middle years of life females are more subject to cancer than males. Sixty-eight per cent of all cases of cancer in females in this series occurred in the ages 15 through 64; the corresponding percentage for males was 48.6.

TABLE 2.—*California Tumor Registry, 1942-1498: Percentage Distribution of Reported Cancer Cases Microscopically Confirmed, by Age at Initial Diagnosis by Sex.*

Sex	Total	Under 15 Years	15-44	45-64	65 and Over
Number years included:		15	30	20	20+
Total	100.0 (10,404) *	1.5	16.3	42.5	39.7
Male	100.0 (4,923)	1.9	10.2	38.4	49.5
Female	100.0 (5,472)	1.2	21.8	46.2	30.8

*1,098 cases, age not stated; 11 cases, sex not stated.

More than half of the reported cancers in females occur in accessible sites—nearly 40 per cent in the breast and cervix uteri (Table 3). The import of this is that cancer of these sites is particularly amenable to early diagnosis and successful treatment.

Epidemiological methods have been utilized to a very limited extent in the investigation of cancer. It is likely that much can be learned from the careful description of population segments which are especially affected by cancer of certain sites and from the isolation of factors which may be responsible for such higher incidence. Understanding of the etiology of cancer and ability to control it would be materially advanced through vigorous pursuit of this avenue of investigation. Leads for research of this type are found in the Tumor Registry.

TABLE 3.—*California Tumor Registry, 1942-1948: Percentage Distribution of Reported Cancer Cases Microscopically Confirmed, Selected Sites by Sex.*

Selected Sites	Total	Male	Female
All sites:			
Number	11,502*	5,467	6,024
Per cent	100.0	100.0	100.0
Buccal cavity	7.1	11.9	2.8
Rectum	8.0	9.5	6.7
Breast	10.5	0.3	19.8
Cervix uteri	10.5	....	19.9
Skin	13.0	18.5	8.0
All other sites	50.9	59.8	42.8

*Includes 11 cases sex not stated.

Table 4 presents the male-female ratio in cancer of the respiratory tract. It will be noted that cancer of the respiratory tract is more than seven times as common among males as among females. Rather than biological sex variation, this may reflect difference in environmental exposures. The California Department of Public Health is now conducting a study which may throw greater light on this problem.

TABLE 4.—*California Tumor Registry, 1942-1948: Primary Cancer of Respiratory Tract Microscopically Confirmed, by Sex.*

Sex	Neoplasms	
	Number	Per Cent
Total	307	100.0
Male	270	87.9
Female	37	12.1

In Table 5 and Chart 1 significant differences are revealed between white and non-white persons in cancer of the cervix and skin, whereas with regard to cancer at other sites there is no significant difference between the races. It seems possible that the relative infrequency of cancer of the skin among non-whites reflects some biological difference. This might be worth further investigation. In the case of cancer of the cervix, present knowledge suggests that lack of medical attention to the trauma of childbirth, nutritional deficiencies, and infectious diseases may play an important role in the higher incidence of this type of cancer among non-white females. These possibilities merit detailed epidemiological study. One profitable use of the observed difference in the relative frequency of cancer of the cervix is the directing of case-finding procedures (such as cytological techniques) toward the non-white population groups.

The Tumor Registry serves another important function in facilitating the establishment and maintenance of a comprehensive follow-up system by participating agencies. Such a system is important not only in the evaluation of methods of therapy but also for preservation of the health of the individuals concerned. Prompt discovery of recurrences may lead to significant reduction of morbidity and even mortality, just as in the follow-up of cases of tuberculosis.

Many hospitals, clinics, and physicians find that follow-up is burdensome, particularly because record systems do not readily provide essential information; patients change hospitals, clinics, and physicians; and many patients die unbeknownst to the follow-up agency. In the latter event, attempts at follow-up result in unnecessary and often embarrassing situations.

A tumor registry aids in overcoming these difficulties. The State Tumor Registry supplies each participating agency with photostatic copies of death certificates for cancer patients in the agency's purview who die in California. A listing of all patients known to have died and individual follow-up forms for all patients not known to be dead are supplied annually to each participating agency. These forms provide identifying information and the date the patient was last reported to be alive. After the follow-up information is obtained and recorded by the reporting agency, the form is returned to the Tumor Registry. With reports on a state-wide basis and machine processing of the records, a systematic and thorough follow-up system is made considerably easier for the reporting agencies.

TABLE 5.—*California Tumor Registry, 1942-1948: Percentage Distribution of Reported Cancer Cases, Microscopically Confirmed, Skin and Cervix Uteri, by Race.*

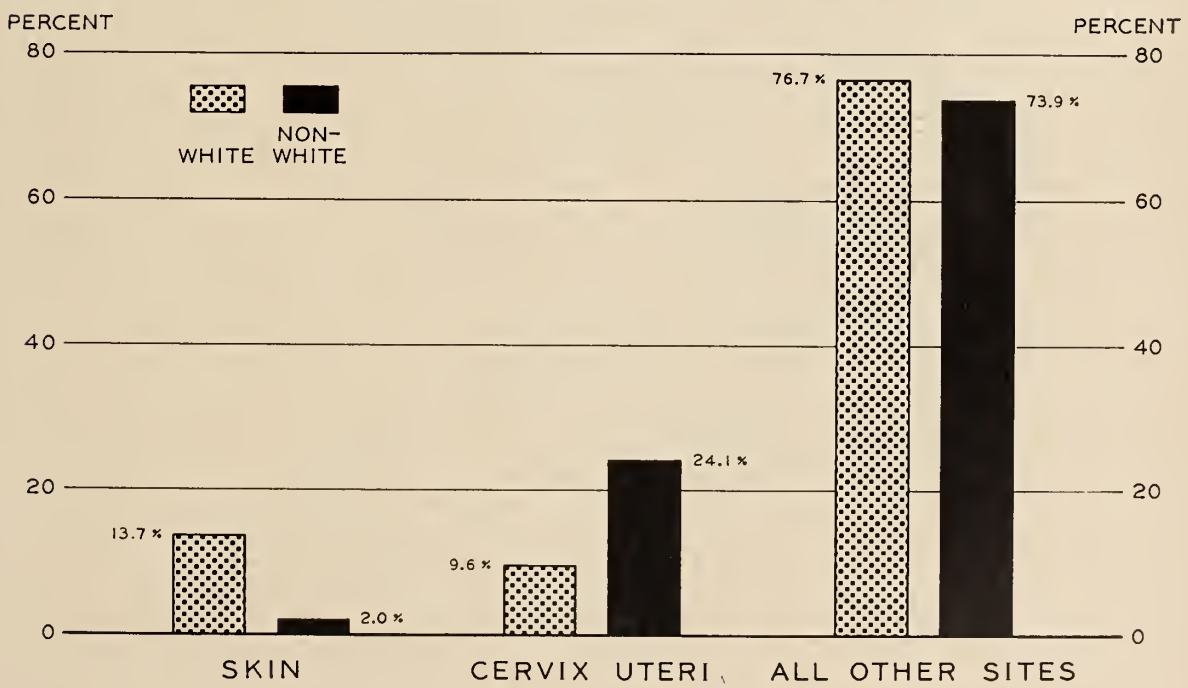
Race	All Sites	Skin	Cervix Uteri	All Other Sites
Total	100.0 (11,502)	13.0	10.4	76.6
White	100.0 (10,781)	13.7	9.6	76.7
Non-white	100.00 (638)	2.0	24.1	73.9

The extent to which patients with cancer actually can be followed may be of some interest. Four hospitals (one large county hospital and three private institutions) in the California Tumor Registry have completed reporting and following the reported cases for the period 1942-1948. It should be noted that this was a period of considerable migration and that follow-up activities were undertaken for the first time, in some cases, as long as seven years after the patient had been discharged from the reporting institution. In spite of this handicap, the

CHART 1

PERCENTAGE DISTRIBUTION OF REPORTED CANCER CASES SKIN AND CERVIX UTERI BY RACE

(MICROSCOPICALLY CONFIRMED)
CALIFORNIA TUMOR REGISTRY, 1942-1948



four hospitals succeeded in following up 96 per cent of all patients for a varying period of time either through contact with the patient or through notice of death. The large county hospital was able to follow 98 per cent of the patients it had reported. The three smaller private hospitals averaged 87 per cent.

One more point should be made in connection with Tumor Registry follow-up. Information obtained by the medical staffs of hospitals on groups of cancer cases reported and followed should influence the methods of care of patients with cancer. Hospital staff interest in such combined experience with cancer will undoubtedly exert a salutary influence on practice in the hospitals. The Tumor Registry is equipped to assist physicians with special studies. At the request of a participating agency, the Tumor Registry will provide information useful to the physician in assembling a series of the agency's cases.

One of the more important features of the Tumor Registry program is the possibility which it provides for evaluating the cancer control program. Of critical significance in this evaluation is the extent to which diagnoses are microscopically confirmed as recorded in medical records from year to year. Table 6 and Chart 2 indicate that 70.6 per cent of the diagnoses in this series were so confirmed.

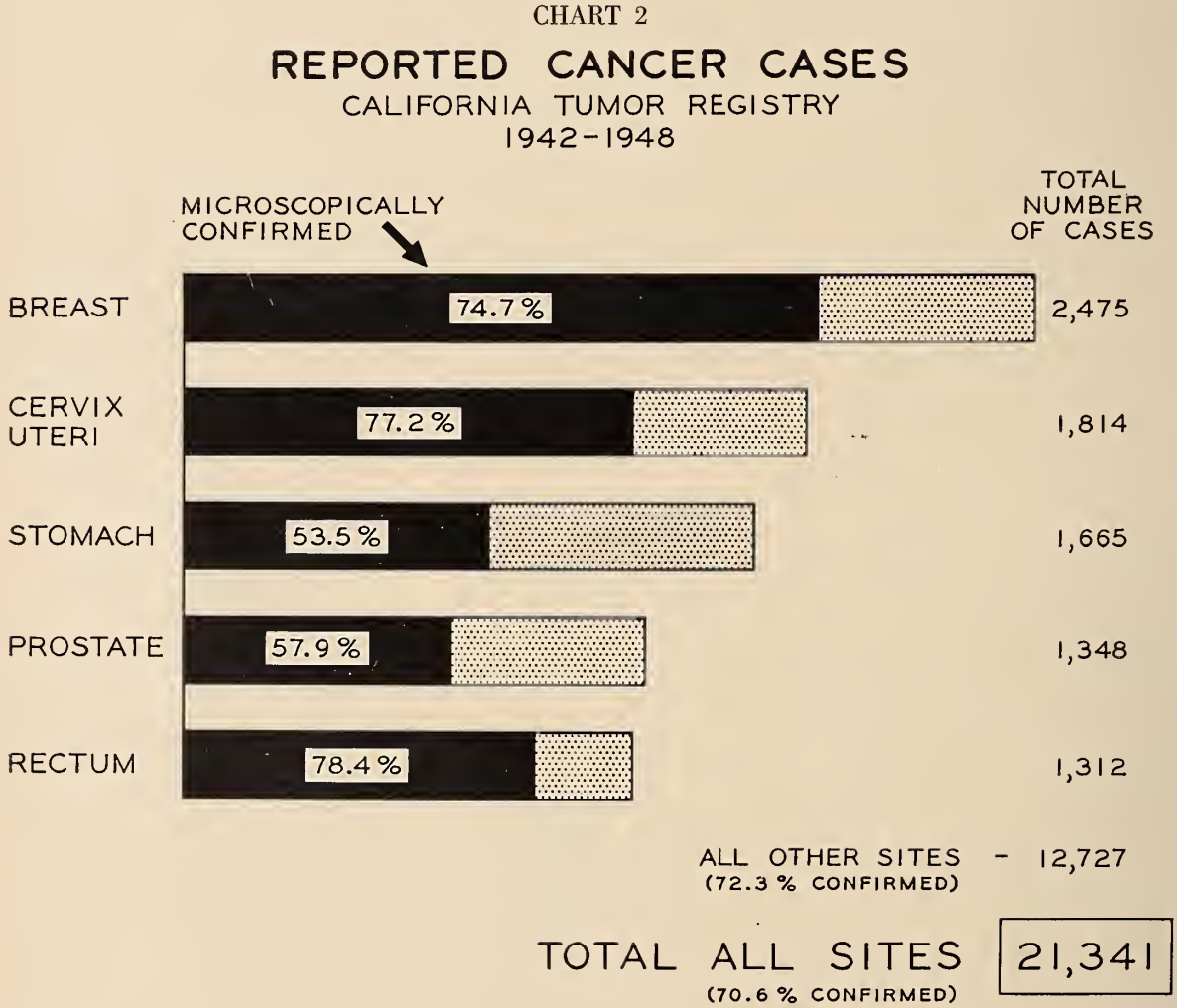
An important factor in determining the results of cancer treatment is the period of delay between onset of symptoms and the initiation of treatment. Part of this delay is due to the patient's failure, for

TABLE 6.—*California Tumor Registry, 1942-1948: Reported Cancer Cases, Selected Sites, Per Cent Microscopically Confirmed.*

Selected Sites	Number of Cancer Cases	Microscopically Confirmed Number	Microscopically Confirmed Per Cent
All sites	21,341	15,059*	70.6
Rectum	1,312	1,028	78.4
Cervix uteri	1,814	1,310	77.2
Breast	2,475	1,849	74.7
Prostate	1,348	780	57.9
Stomach	1,665	890	53.5
All other sites	12,727	9,202	72.3

*Represents all reported types of malignant neoplasm.

CHART 2



a variety of reasons, to seek medical treatment. The rest of the delay represents the lag between the time of first visit to physician and the time of treatment. This time lag can be reduced through efforts on the part of the physician. He may use intensive efforts to impress the patient with the need for prompt treatment and may assist the patient in making arrangements for such care.

In only a little more than half of the series of 11,502 cases was information recorded which could be used in estimating the delay. Table 7 and Chart 3 reveal that in only 36.2 per cent of these cases had the patients visited a physician by the end of two months after onset of symptoms. Then there was an average of a further six weeks' delay before treatment was begun. Among the cases for which information is available, only 80.5 per cent of patients had consulted a physician by the end of 12 months after onset of symptoms. And it should be noted that these data on delay periods, since they are based upon cases in which the patients were hospitalized, put the most favorable light on the situation. A shorter period of delay would be one important measure of the success of cancer education methods.

Progress in cancer control must ultimately be measured in terms of the decline in cancer incidence. Substantial progress toward this goal will depend on greater etiologic knowledge and with it knowledge as to how the occurrence of cancer can be prevented.

At present the major efforts in cancer control are directed toward early detection, early diagnosis and adequate treatment. These efforts are best measured by the survival rate of patients with diagnosed cancer. It is customary to express the survival rate as the percentage of patients alive five years after diagnosis. The mortality rate is highest during the first few years after diagnosis.

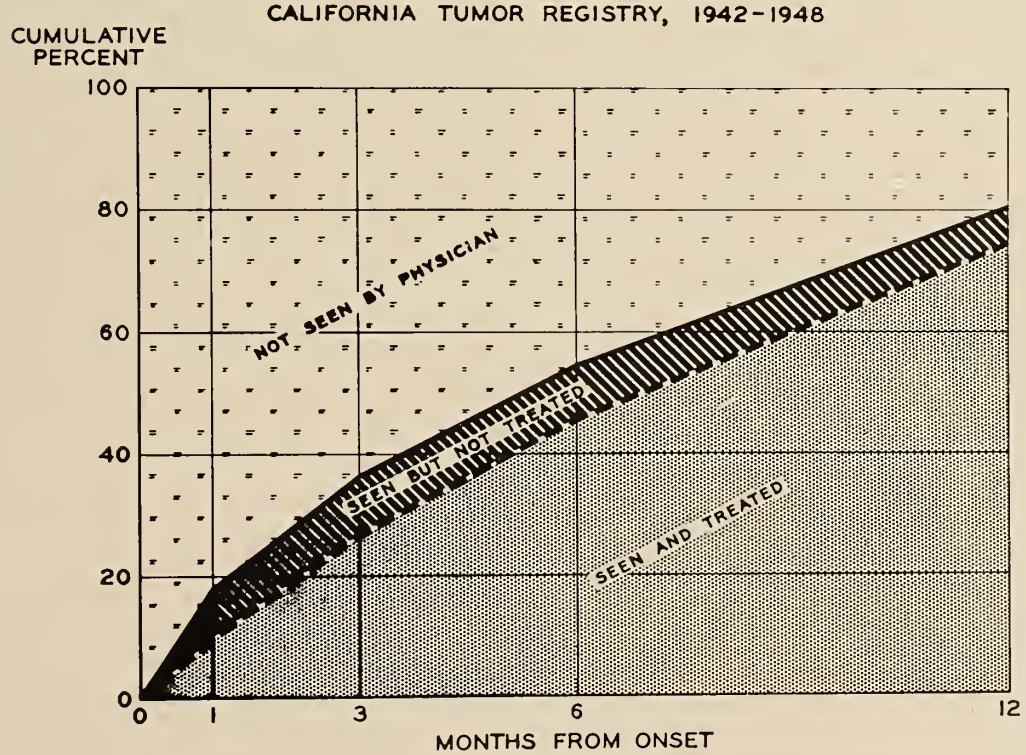
In using such percentages (for example, 20 per cent survival for five years following diagnosis),

TABLE 7.—*California Tumor Registry, 1942-1948: Delay Time of Reported Cancer Cases from Onset of Symptoms to First Physician Visit and to Treatment—Cumulative Percentages.*

		Months from Onset				
		Less Than	1-2	3-5	6-11	12 Mos.
Interval	Total	1 Mo.	Mos.	Mos.	Mos.	and Over
Onset symptoms to first physician visit	100.0 (6,484)	18.0	36.2	54.4	80.5	100.0
Onset symptoms to treatment	100.0 (6,319)	10.0	26.7	45.5	74.4	100.0

CHART 3

DELAY TIME OF REPORTED CANCER CASES
ONSET OF SYMPTOMS TO FIRST PHYSICIAN VISIT AND TO TREATMENT
(MICROSCOPICALLY CONFIRMED)
CALIFORNIA TUMOR REGISTRY, 1942-1948



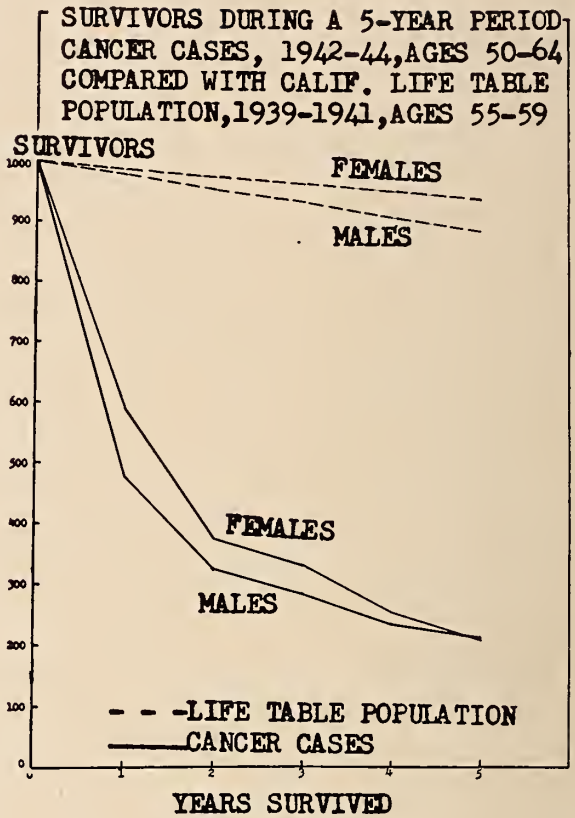
the implied comparison is with 100 per cent survival. This comparison is misleading because no consideration is given to deaths due to causes other than cancer, although such causes are a particularly important factor in the age groups most severely affected by cancer.

A better, although still not exact, measure of relative survival rates is to contrast the life span of patients after diagnosis of cancer with the life expectancy for a general group of persons in comparable age brackets (see Chart 4). Even this, of course, is not a precise contrast, since the life expectancy for the general population group is affected to some extent by deaths due to cancer among persons in that group. For precise measurement of the difference between survival rates for persons with cancer and those without cancer, it would be necessary to eliminate the effect of deaths due to cancer from the life expectancy computations for the general population group. The success of cancer control efforts then could be measured by the extent to which the survival rate for patients with cancer could be brought into line with the life expectancy for a comparable general population group without cancer.

The continuous lines in Chart 4 indicate the survival rate of patients with microscopically confirmed cancer, as determined from data of four hospitals (including one large county hospital) which reported a total of 564 cases in the age group 50 to 64 during the years 1942-1944 with sufficient information for calculation of survival. The broken lines represent life expectancy of persons in the 55 to 59 age group in California as computed from data compiled in the years 1939-1941.

2180 Milvia Street.

CHART 4



ACKNOWLEDGMENT

Grateful acknowledgement is made to Eschscholtzia Lucia for her assistance in the development of the concept and operations of the registry, to Geraldine Edwards for supervision of processing of the records and assistance in analysis, and to Arthur Weissman for invaluable counsel.

Return of the Vestibular Function Following Streptomycin Toxemia

John S. Chase, M.D., *San Fernando*

SUMMARY

Of 62 patients given 2 gm. of streptomycin daily for an average of 110 days, 42 had complete loss of vestibular response to caloric stimulation. In the great majority of cases, response returned in varying degrees over a period of two years. The incidence of loss of response was higher among patients who weighed less than 125 pounds than among heavier patients, and it was higher among patients over 45 years of age than among those who were younger. Response returned earlier in the younger patients than in the older.

Of 215 patients given 1 gm. of streptomycin for an average of 110 days, 18 had complete loss of vestibular response to stimulation. Sixteen regained response within a year, one in 17 months, and one was lost to study.

THIS report covers the vestibular reactions of 62 patients treated for pulmonary tuberculosis with 2 gm. of streptomycin daily, and 215 patients treated with 1 gm. of streptomycin daily, according to the Veterans Administration protocol.[15] (In 14 of the cases in which the larger dose was used, ulcerative tracheobronchitis was a complicating factor.) That streptomycin may cause defective hearing was not confirmed in investigations by Moffitt[11] and Davis[3] or in the Veterans Administration Streptomycin Conference Report.[13] The only exceptions were cases in which very large doses were given, or in cases of tuberculous meningitis.

All patients in the series here reported upon were examined for vestibular function before, during and after treatment.

Method of Examination: The modified Kobrak test of minimal stimulation was used, rather than the tilt table of Glorig,[5] or the nystagmograph of Linthicum.[9] The examinations were done by one examiner, thus reducing the variables in method and interpretation.

Five cubic centimeters of melted ice was instilled in the ear canal, with the head in a horizontal position, and the liquid was left there until nystagmus was observed with an ophthalmoscope, but not longer than a minute and a half. Nystagmus was considered normal if it started within 50 seconds and lasted from 60 to 90 seconds. The water was emptied out of the ear canal and the head put 60 degrees back, changing the direction of flow of the endolymph in relation to the canal. If the flow was normal, there was rotatory nystagmus.

McNally[10] stated that the whole body musculature is under the influence of the labyrinth and that the eye reactions are actually only a small part of the result of vestibular stimulation.

In the present series, past pointing tests were used to observe the effect of labyrinthine stimulation with regard to the loss or alteration of function in muscle groups other than those of the eyes.[1,6,7] With the head inclined 32 degrees forward and the eyes closed, the patient's arm was held outstretched before him and the index finger placed at a starting point. Then the arm, with the elbow straight, was swung upward until the hand was directly above the head. The patient then was directed to return the index finger to the starting point without bending the elbow. Pointing to the right after stimulation of the right ear and to the left after stimulation of the left ear was considered normal. Return of the index finger to the starting position indicated hypofunction of the labyrinth. If there was no nystagmus and the patient was unable even to approach the starting point in a past pointing test, he was considered to have complete loss of vestibular function.

After all results of stimulation had subsided, the ability to walk naturally on a level hard floor, with the eyes closed, was tested. Pronounced correlation between the amount of vestibular response and the ability to walk on a level hard floor was observed. When the vestibular response was reduced—that is, when there was a shortened duration of nystagmus, absence of rotatory nystagmus or diminished past pointing ability—the patient could take only a few steps with the eyes closed and then would start to fall. When there was no nystagmus or past pointing ability after caloric stimulation of each ear, the patient had difficulty in standing with the eyes closed and total inability to take even one step without falling. It is suggested that this walking test with the eyes closed may be used as a rough determination of the amount of vestibular function remaining.

The most disabling symptoms of streptomycin toxemia have been previously described as vertigo, dizziness and ataxia.[15,13,3,4,5,12] McNally[10] stated that dizziness and vertigo may result from stimula-

From the Veterans Administration Hospital, San Fernando, California.

Reviewed in the Veterans Administration and published with the approval of the Chief Medical Director. The statements and conclusions published by the author are the result of his own study and do not necessarily reflect the opinion or policy of the Veterans Administration.

tion, irritation or disease of any of the structures concerned in the maintenance of balance. There may be ocular vertigo, central vertigo or labyrinthine vertigo. Frequently, it is difficult to distinguish between the various causes.

Many patients with a decreased vestibular response have difficulty in walking, with their eyes open, on an inclined surface, on grass, or on a thick carpet and may require the assistance of another person. This difficulty is increased if the light is dim. They also complain of unsteadiness on turning quickly. When they suddenly sit up in bed or stand erect after stooping, the body seems to go too far and does not stop at the vertical position. In streptomycin toxemia there is nystagmus, lack of control of the head and trunk muscles, and difficulty in walking. It would seem, then, that the term "disturbance of equilibrium" would best describe the symptoms due to the neurotoxic effects of streptomycin.

Result of Examinations: All patients hereinafter reported had normal vestibular response in both ears before treatment with streptomycin. Of 62 patients who received 2 gm. of streptomycin daily for an average of 110 days, 89 per cent had a mild decrease in vestibular response at the end of six weeks. Thirty-two had complete loss of vestibular response during treatment, and ten more lost all response within two months after the treatment was discontinued. Of these 42, 14 regained some response during the first year (see Table 1), most of them in succeeding months regaining full normal caloric response with no disturbance of equilibrium.

TABLE 1.—*Data on Loss of Vestibular Response in 62 Patients Given 2 gm. of Streptomycin for 110 days.*

	During Prescription	Two Months After Prescription	Total
Positive*	20	20	20
Negative*	32	10	42

The 42 patients negative after prescription:

	End of First Year	Total Up to Second Year	Total Up to Third Year
Positive	14	26	28
Negative	25	5	3
Lost to study	3	8	8

*The term "positive" indicates no reduction or only partial reduction of vestibular response; "negative" means complete loss of response.

Of the 12 patients who regained some response during the second year, eight had a slight response in both ears and four had a slight response in only one ear after stimulation. All of these 12 were able to take from four to five steps with their eyes closed, walking on a level hard floor.

An interesting observation in these studies was how little vestibular response was necessary to enable patients to walk with their eyes closed, although equilibrium was not normal in every respect. Patients with hypofunction still had difficulty in walking in a dim light, in turning quickly, in riding in an automobile and in stepping down from a curbing, and vision of distant objects was blurred.

Return of Vestibular Function in Weight and Age Groups: The incidence of vestibular damage was higher among patients with body weight less than 125 pounds who received 2 gm. daily than it was among patients who were heavier than that. This conforms with Tompsett's[14] opinion regarding body-weight dosage. There was lower incidence of loss of vestibular response in patients under 45 years of age than in patients in higher age brackets. In the younger group, vestibular response was regained earlier and complete recovery occurred much sooner than in the group over 45 years of age. Many of the older group who had some return of vestibular response still had pronounced disturbance of equilibrium for one or two years, and in a small percentage of these cases there was never a return to normal.

Peik and High[12] reported on 15 cases in which 2 gm. of streptomycin had been given daily. The toxic reactions were similar to those observed in this study. Four patients with moderate to severe loss of vestibular function recovered within seven to eleven months, two others showed slight improvement, one showed no response, all others continued to show serious to severe vestibular loss.

One Gram Dosage: Because of the frequent occurrence of the neurotoxic effect of streptomycin on the vestibular branch of the eighth nerve (which the preceding data show is not necessarily permanent) the Streptomycin Conference[13,15] changed its protocol to use 1 gm. of streptomycin rather than 2 gm. because of the early reports of the lessened toxicity with the use of the smaller dose.

Of 215 patients in the present series who were treated with 1 gm. for an average of 110 days, only 18 completely lost vestibular response to caloric stimulation in both ears. All but two regained some response within the first year. One more regained some response 17 months after discontinuance of the drug and one was lost to study (see Table 2).

TABLE 2.—*Studies of 215 Patients Receiving 1 gm. of Streptomycin for 110 Days*

	After Treatment	End of First Year	End of Second Year
Positive	197	213	214
Negative	18	2	0
Lost to study	....	0	1

The recovery of equilibrium following loss or hypofunction due to the treatment with 1 gm. was much more rapid than recovery after loss of equilibrium under 2 gm. dosage.

As a certain amount of compensation was acquired by patients with hypofunction, walking and turning were a little more steady as time went on. It is probable that this improvement in equilibrium

was due more to gradual return of vestibular function in one or both ears than to the patient's learning to get along without complete labyrinthine control of equilibrium. Bauer[1] stated that the chief factors concerned in the maintenance of equilibrium are vision, the vestibular mechanism, and deep muscle sense, including sensations from the bones, joints and tendons.

Location of Lesion: Winston and Lewey,[16,17] using phospho-tungstic acid and cresylviolet, demonstrated pyknosis and increase of glial fibers around the dendrites of the Purkinje cells in the cerebellum of cats treated with large doses of streptomycin. Jones[6] reported a case of localized encephalitis in which there was no loss of hearing in either ear but complete loss of all vestibular response to both whirling chair and caloric stimulation, ten days before death. In microscopic examination of serial sections of the brain, a localized area of complete degeneration was observed in the center of the tegmentum, extending from the lower part of the medulla oblongata well into the lower part of the pons, with the raphe as its center. It may be concluded that nearly all of the central tracts concerned with vestibular function pass through the area represented by this degeneration, and that few of the fibers of the cochlear system are represented in this region. Fowler,[4] early in the research, reported no abnormal findings at autopsy in sections of the internal ear of patients treated with streptomycin.

Winston and Lewey[17] recently reported that by the vital staining technique, pathologic changes were observed in the cerebellum and medulla in 50 per cent of cats that had been given streptomycin in three divided daily doses. No pathologic changes were detected by this method in cats that had received streptomycin in one daily injection. Of the cats in which pathologic changes were noted, nearly all had lesions in the vestibular portion of the cerebellum; one-third of them changes in the cochlear system, and one-sixth in the vestibular nuclei of the brain stem.

With regard to vertigo caused by certain drugs, Lindsay[8] stated that the occurrence of dizziness and nystagmus in connection with change in the position of the head (which changes the direction of the flow of endolymph) is a fairly reliable indicator of a centrally located lesion.

Berg,[2] on the other hand, concluded that streptomycin primarily affects the sensory epithelium of the labyrinth, and he expressed the belief that the changes in the vestibular ganglion and in Deiters' nucleus presumably are secondary to the primary lesion of the sensory epithelium.

ACKNOWLEDGMENT

The author wishes to express his gratitude to Emil Bogan, M.D., for his encouragement and guidance since the start of the streptomycin research.

REFERENCES

1. Bauer, L. H., A.B.: Aviation Medicine, p. 40, 1926.

2. Berg, K.: The toxic effect of streptomycin on the eighth cranial nerve; Ann. of Otol., Rhin., and Laryng., 58:448, 1949.

3. Davis, D. J., Anderson, C. W., and Landy, A. E.: Streptomycin toxicity, Ann. West. Med. & Surg., Vol. 2, June 1948.

4. Fowler, E. P., and Seligman, E.: Otic complications of streptomycin therapy, J.A.M.A., 133:87, Jan. 1947.

5. Glorig, A., and Fowler, E. P., Jr.: Tests for labyrinthine function following streptomycin therapy, Ann. of Otol., Rhin., and Laryng., 56:379, June 1947.

6. Jones, I. H.: Vestibular experiences, The Trans. American Laryng., Rhin. and Otol. Soc., pp. 7-15, 1949.

7. Jones, I. H., and Lewis, G.: Aviation problems with special reference to the internal ear and the cerebellum, N. Y. Med. Jour., 109:83, 1919.

8. Lindsay, J. R.: Pathology of vertigo arising from the peripheral vestibular apparatus, Ann. Otol., Rhin. & Laryng., 56:543, 1947.

9. Linthicum, F. H.: Nystagmography, Arch. Otolaryng., 32:464-471, 1940.

10. McNally, W. J.: The physiology of the vestibular mechanism in relation to vertigo, Ann. of Otol., Rhin. & Laryng., 56:529, 1947.

11. Moffitt, O. P., and Norman, W. B.: Streptomycin toxicity to the labyrinth, Ann. Otol., Rhinol. and Laryng., 57:999, Dec. 1948.

12. Peik, D. J., and High, Howard, Jr.: Streptomycin toxicity of the eighth nerve, Arch. Otolaryng., 50:251, 1949.

13. Sixth Streptomycin Conference, St. Paul, Minn. Veterans Administration Publication, Oct. 1948.

14. Tompsett, R.: Relation of dosage to streptomycin toxicity, Ann. Otol., Rhin. and Laryng., 57:181, March 1948.

15. Veterans Administration Technical Bulletin, 10-37, Preliminary Report of Cooperative Study of 223 Cases by the Army, Navy and Veterans Administration, Sept. 24, 1947.

16. Winston, J., and Lewey, F. H.: An experimental study of the toxic effects of streptomycin on the vestibular apparatus of the cat, Ann. Otol., Rhin. & Laryng., Sept. 1948.

17. Winston, Lewey, Parenteau, Marden and Cramer: Streptomycin toxicity; Ann. of Otol., Rhin. and Laryng., 58:995, 1949.

Prevention of Injury from X-Radiation

Francis R. Holden, Ph.D., *Berkeley*, Eugene Tochilin, A.B., *San Francisco*, and Charles H. Hine, M.D., and Leon Lewis, M.D., *Berkeley*

SUMMARY

Despite continued advances in x-ray technology, evidence indicates that x-radiation injuries occur today to an excessive degree. These injuries have led to a progressive stiffening of standards of permissible exposure, especially in the past 15 years.

Protection from radiation damage is logically based on dosimetry, preferably administered by a centralized service laboratory. The experience of two large hospitals in the control of x-radiation exposure is cited.

Personnel exposed to x-radiation may be monitored by either pocket dosimeters of the ion chamber or electroscope type or by standardized film badge dosimeters. A recently developed film badge dosimeter that measures effective x-ray energy and radiation exposure in a quantitative manner is described.

IN this day of universal awareness of the hazards of ionizing radiation, increasing concern over the potentialities of military weapons may tend to diminish respect for less impressive sources of radiation which are now part of the routine environment of the medical and allied professions. While most physicians have become aware of the dangers from overexposure to x-ray and radium, having learned the disastrous consequence of inadequate protection from the experience of pioneers in the science of radiology, it may be well to review the subject of radiation injury and take stock of present attitudes toward protection.

The first instance of severe dermatitis from x-ray was described in July 1896, only a few months after Roentgen's epoch-making discovery. Intensive exposures during the next few years resulted in a harvest of atrophic digits and cancerous lesions of the hands among the early users of x-ray. The total number of medical and technical personnel who have sustained damage from ionizing radiation during the past 60 years can never be accurately determined. However, Parker[12] has recently estimated that physicians and technicians have suffered serious injury at the rate of one casualty for every 30 man-years of exposure. This estimation is admittedly conservative, since he quotes other authorities who accept a rate of one injury for every 20 man-years. Furthermore, knowledge of the consequences of repeated small doses is still meager and will be expanded only as quantitative data become available for analysis.

Although the technical equipment used in radiology has undergone progressive improvement during the course of years, careful studies have shown that even the most modern equipment is inadequately shielded. Radiologists, who are obviously most vitally concerned with protection from ionizing radiation, have also been shown by biostatistical evidence to be inadequately protected. In a study of the life expectancy of physicians, Dublin and Spiegelman[4] showed that the death rate of physicians from leukemia was twice that of the general white male population of comparable age. Subsequently, in a review of statistics on the mortality of medical specialists during the years 1933-1942, they found[5] that medical specialists as a group had a mortality rate of only 71 per cent that of non-specialists. However, according to these investigators, "Roentgenologists, radiologists and dermatologists have a high rate of mortality from cancer and leukemia, far above that for non-specialists. This condition among these specialties suggests strongly the effect of their exposure to dangerous radiations."

Further indication that radiologists are inadequately shielded was offered by Braasch and Nickson[2] in a recent report of a study of the hands of radiologists insofar as skin damage and modification of fingertip ridges are concerned. They found that 48 per cent of radiologists had recognizable abnormalities as compared with 1.8 per cent of an unexposed group of comparable personnel. In the group studied, all radiologists who had had more than 35 years' experience had involvement of the skin of the hands.

THE MAXIMUM PERMISSIBLE DOSE

Soon after the recognition of the damaging effect of uncontrolled exposure to x-ray, an attempt was made to formulate tolerance doses. Rollins[14] made the first formal suggestion in 1902, at which time he advised that radiologists test the amount of radiation by exposure of a photographic plate to sources of radiation. The qualitative test which he suggested was based upon the view that "if a photographic plate is not fogged in seven minutes, the radiation is not of harmful intensity." This exposure was probably equivalent to about 10 to 20 r per day from soft x-radiation, a quantity almost certain to result in disastrous consequences in a relatively short time. Injuries continued to occur and recog-

Chief, Health Physics Branch, Naval Radiological Defense Laboratory, San Francisco Naval Shipyard (Holden); Physicist, Naval Radiological Defense Laboratory, San Francisco Naval Shipyard (Tochilin); Assistant Professor of Industrial Toxicology, School of Public Health, University of California (Hine); former Associate Professor of Industrial Health, School of Public Health, University of California (Lewis).

nizable damage to the bone marrow, reproductive organs and skin led to the establishment of lower tolerance levels until now there is general agreement as to the quantity of radiation to which it is believed that persons may be exposed during the course of their professional lives without serious injury. The first quantitative value of tolerance dosage was proposed by the International Committee on X-Ray and Radium Protection in 1931.[7] The tolerance suggested was 0.2 r per day, a value generally accepted until 1936, when it was reduced to 0.1 r per day[9] following a proposal by the National Bureau of Standards. Throughout the period of work on atomic energy during World War II the values of 0.1 r and 0.1 rem (roentgen-equivalent-man) per day were accepted as maximum doses for all forms of ionizing radiation. Experimental work on animals at various Manhattan Project agencies contributed to the knowledge of tolerance radiation, and this work is continuing under the auspices of the Atomic Energy Commission.

In December 1949 the Atomic Energy Commission[1] further reduced the permissible exposure limit to a level which is now accepted by the National Bureau of Standards and many other governmental agencies concerned with health protection. These new limits provide that "the total exposure of any part of any person's body to all types of radiation shall not exceed 0.30 roentgen-equivalent-man (rem) in any one week." The rem unit is used rather than the roentgen, since it applies to other types of radiation than x-ray and represents an attempt to evaluate relative hazard of the various rays and particles. Physical equivalents (rep*) of 0.30 rem are shown in Table 1.

LEGAL STATUS OF MAXIMUM PERMISSIBLE RADIATION DOSES

Although standards of maximum allowable exposure have been proposed by the National Bureau of Standards,[10] the Atomic Energy Commission,[1] and numerous official industrial hygiene agencies, it must be pointed out that there is no single legal standard which is mandatory throughout the United States. Under individual governmental jurisdiction, health or safety units may have established standards of their own or accepted those of the Atomic Energy Commission or of the National Bureau of Standards. However, only those institutions or laboratories using Atomic Energy Commission isotopes or working on commission-sponsored projects are responsible to the commission for maintenance of the AEC standards.

In commenting upon the early American Advisory Committee on X-Ray and Radium Protection proposals, Taylor[15] indicated the lack of legal compulsion, but stressed the possible effectiveness of accepted tolerances in the following statement: ". . . the question of the legal status of these recommendations has been frequently raised. They have none. The Committee feels that none is needed; that legislative enactment tends to stunt development and prevent healthy changes. We are free to admit that our present proposals may require changes in the future as they are developed. We wish nothing to interfere with the freedom for modification. It should be pointed out, however, that lack of legal standing will probably not in any way detract from their legal value. They are a recognized set of recommendations, drawn up by qualified representatives of the art and freely distributed to those interested. A court decision involving x-ray protection would in all probability, for lack of another source, be guided by these recommendations, and persons ignoring them may be held liable for negligence." While it is true that the principal purpose of permissible dosage level is to establish limits which preclude any possibility of harm to persons habitually exposed, the legal significance of these standards has been demonstrated by numerous litigations involving the question of injury from radiation. The measuring stick in all such cases is the accepted tolerance level at the time of exposure.

During the past few years radiation standards have achieved a legal status in many state and local jurisdictions. Industrial safety codes have included tolerances to radiation among the tables of maximum allowable concentrations for industrial hazards in general. The values proposed have as much application to physician employers as to industrial users of x-ray, according to codes now in force in many parts of the United States. An example of legal tolerance levels is described in the following discussion of the new general industrial safety orders of the state of California.

CALIFORNIA INDUSTRIAL SAFETY ORDERS

In January 1950 the State of California adopted a new set of general industrial safety orders intended to "make full provision for securing safety in places of employment."[3] Included among the orders is Article 53, which establishes minimum standards applicable to all employments and places of employment in California for protection against radiation and radioactivity. The new Bureau of Standards tolerance dose of 0.3 rem per week is considered applicable to all except "totally protective installations," defined as those resulting in a "dosage rate at any accessible point outside the enclosure not greater than 6.25 milliroentgens or milliroentgen-equivalent-physical per hour when the radiation pro-

*The unit "roentgen equivalent physical" refers to that quantity of ionizing radiation which is capable of producing 1.615×10^{12} ion pairs per gram of tissue or that will cause an absorption in tissue of 83 ergs per gram. One roentgen of X or gamma radiation produces an equivalent ionization in one gram of air under standard conditions.

TABLE 1.—*Physical Equivalents (rep) of 0.30 Roentgen-Equivalent-Man*

Type of Radiation	r/week	rem/week	rep/week
X-ray	0.3	0.3	0.3
Gamma	0.3	0.3	0.3
Beta	....	0.3	0.3
Fast neutrons	....	0.3	0.1
Slow neutrons	....	0.3	0.1
Alpha	....	0.3	0.03

ducing equipment is adjusted to give the maximum dosage rate at the point in question under operating conditions." It is specified that "no medical installation, either diagnostic or therapeutic, is considered totally protective" in the terms of this definition. Equipment which may be considered "totally protective" is found only in industrial radiographic installations for metallurgical or other testing purposes which are shielded or isolated in such a manner as to produce the low dosage rate specified. Obviously, medical apparatus used in radiographic rooms cannot be isolated in similar fashion.

In order to assure the protection of operatives, Paragraph 3304(c) indicates the requirements for monitoring of x-ray installations. "Inspections required by (a) and (b)* shall be carried out by means of appropriate monitoring devices suitable for detection of such radiation as may be encountered; and shall be made by a person competent to make such inspections. Records of such inspections shall be reviewed by the supervisor and shall be filed as a permanent record available to representatives of the Division" (i.e., the Division of Industrial Safety). The personnel monitoring requirements are further elaborated by paragraph (d): "Employees who, regularly or frequently, may be subjected to ionizing radiation which potentially could exceed the exposures referred to in Paragraph 3303 shall wear appropriate indicating or monitoring devices to show the amount of ionizing radiation to which such employees have been subjected. Records of exposure as recorded by these devices shall be reviewed by the supervisor or other competent person and shall be filed as a permanent record available to representatives of the Division."

"(Exceptions: Employees in medical services, either diagnostic or therapeutic, shall wear appropriate indicating or monitoring devices at intervals prescribed by the physician responsible, at least annually. The records shall be made available to representatives of the Division.)"

MONITORING METHODS FOR PROTECTION OF PERSONNEL

The purpose of monitoring is to measure the radiation exposure accumulated during the work week. At present photographic films or pocket electroscopes, or both, are widely used. The present-day accepted levels of tolerances make the use of quantitative methods mandatory. The old technique of carrying a dental film with a paper clip in the roentgenologist's pocket may still be useful, especially if film density is calibrated to the exposure conditions, but mere estimation of darkening of the exposed film is no longer considered a sufficiently reliable index of dosage. Tierney and Deglow[16] have described the method of pocket dosimetry currently in use in many radiation laboratories, and have made a good case for use of the electroscope. However, the use of pocket dosimeters of the minometer or Landszerk electroscope type requires expensive auxiliary equipment and this method of measurement is frequently inaccurate. Discharge of the ionization chambers may result from changes in climatic conditions or physical jarring of the instrument. Although there is some advantage in the opportunity for daily readings, the technique is cumbersome since even moderate accuracy requires that all personnel be provided with two dosimeters and the responsibility for maintenance of safe conditions is usually inadequately centralized.

In certain circumstances, as pointed out by Newell,[11] pocket dosimeters are highly advantageous. They are generally less energy-dependent than most film badges, and in contradistinction to the exposed films which require processing before reading, the dosimeters can be read from moment to moment. "Their real usefulness comes in situations where the worker knows that he is running an unusual risk of exposure and wants to reassure himself all through the operation that he is still performing it in a safe manner."[11]

FILM BADGE METHOD

Film badge techniques, properly standardized, are generally more satisfactory for continuous monitoring of personnel. This method has been adopted by all of the radiation projects under the Atomic Energy Commission and by most large teaching hospitals and other institutions in which there is exposure to x-ray and radioactive isotopes. One of the disadvantages inherent in most film badge techniques, however, is the fact that the standards for densitometry must be established for each radiation source. That is to say, the darkening produced by varying energy levels is not dependent upon the total dosage as measured in roengens. To overcome this difficulty, Tochilin, Davis and Clifford[17] devised a step shield for film badge dosimetry which offers a quantitative method of measuring x-radiation exposure independently of the energy of the source. By means of step ratios, this method determines the quality of incident x-radiation which strikes the dosimeter film. The metal step shield has an open window and three different metal absorbers, as a consequence of which the darkening of the film is of variable degree in the four quadrants of the film, and measurement by photoelectric densitometry affords a means of determining the quality of the x-rays as well as the dose. Since film blackening in the x-ray region is dependent upon the quality of x-rays, a relation is established which allows the roentgen dose to be estimated quantitatively from the varying degrees of blackening in the four regions. Film developing techniques have been standardized for a wide latitude of conditions and for different x-ray developers.

Properly calibrated film badge dosimeters routinely worn and used over various portions of the body in order to determine areas of possible exposure are probably the most reliable safeguard at present available to the roentgenologist or his assistants. Even when pocket dosimeters are worn in pairs (to make certain that high readings are not due to

*Paragraph 3804 (a) and (b) state the accepted tolerances.

accidental discharge of one of the instruments), there is reason to believe that their accuracy is frequently substandard. Roberson, Deal and Day,[13] in a study of the response of one widely used pocket chamber, found variations greater than 50 per cent when compared to standard ionization chambers exposed in the same x-ray region. While this apparently large discrepancy is not critical in the measurement of tolerance doses, the range of error indicates that the use of commercially available pocket dosimeters does not insure precise measurement of the radiation received by the wearer.

Those concerned with monitoring of personnel exposed to beta and gamma radiation are in general agreement about the reliability of film badge dosimetry. Pocket ionization chambers and electroscopes are often used as adjuncts, but seldom as the only or principal methods of radiation measurement. When they are used, the lowest reading of the pair should be accepted as the probably correct value. However, even this reading should not be accepted unless confirmed by film badge dosimetry. An indication of overexposure requires an immediate investigation of the working conditions, and corrective measures if hazardous operation is confirmed.

If the greatest possible information is to be derived from film badge dosimeters, they must be used according to standardized techniques of film development and interpretation by which accuracy may be maintained. In general, hospitals and industry do not have the equipment necessary for adequate control of dosimetry of x-ray installations unless they operate large-scale facilities. Even if they had the necessary control equipment, there is some question as to whether they should undertake this protective service themselves, for the following reasons:

1. Central agencies properly equipped to serve radiologists and other users of radiation may best establish rigidly standardized techniques.

2. Objective data obtained by an independent agency will have a favorable status in the event of medicolegal action.

3. Agencies concerned principally with monitoring may be more readily supervised by official agencies such as the Division of Industrial Safety and others concerned with protection of personnel.

Many large hospitals have provided their employees with radiation monitoring services. The department of radiology at the Massachusetts General Hospital[15] has recently reported that personnel have shown progressively lower exposure since the institution of film badge dosimetry. This technique has now provided something really effective in comparison with the previous advice for regular blood examinations, which admittedly do not discover the results of excessive radiation until damage has already been done. A similar service has also been started at the University of California Medical Center for all personnel engaged in radiological work. At the outset it was discovered that overexposure was not infrequent. One person is said to have received a dosage of 5 roentgens in a single week.[8] Institution of corrective measures has resulted in limitation of exposures to well below the tolerance level.

While many large institutions have recognized the need for personnel protective measures, little has been accomplished among the vast number of smaller institutions and physicians' offices where radiographic and fluoroscopic equipment is in use. The new general industry safety orders of the state of California constitute a recognition of the need for extension of protective services to all users of x-ray. However, the purpose of the orders can be implemented only by provision of monitoring services available to physicians, dentists and x-ray laboratories as well as large hospitals.

CONCLUSIONS

Recognition of the danger of exposure to ionizing radiation has led to a series of recommended dosage tolerances, the levels of which have gradually diminished as knowledge of harmful effects of radiation has increased.

A maximum allowable exposure of 0.3 r per week (or equivalent dosage by alpha, beta, proton or neutron rays) is now accepted by the Atomic Energy Commission, the National Bureau of Standards, and the Division of Industrial Safety of the State of California.

Personnel exposed to radiation may be monitored by either pocket dosimeters of the ion chamber or electroscope type, by means of properly standardized film badge dosimeters, or by both methods.

Film badge dosimeters, of the type permitting quantitative measurement of x-radiation exposure, provide the most suitable means for continuous monitoring of exposed personnel.

Centralization of dosimetry techniques has special advantages in assurance of accuracy and provision of objective evidence in the event of litigation.

ACKNOWLEDGMENT

The authors wish to express their gratitude to Dr. R. R. Newell, professor of biophysics, Stanford University School of Medicine, for making many helpful suggestions and assisting in the final preparation of this manuscript.

2380 Ellsworth Street.

REFERENCES

1. Atomic Energy Commission, General Rules of Procedures for the Distribution of Radioisotopes, Nov. 1, 1949.

2. Braasch, N. K., and Nickson, N. J.: A study of the hands of radiologists, Radiology, 51:719, Nov. 1948.

3. Division of Industrial Safety, Department of Industrial Relations, State of California: General Industrial Safety Orders, Dec. 19, 1949.

4. Dublin, L. I., and Spiegelman, N.: The longevity and mortality of American physicians, 1938-1942, A Preliminary Report, J.A.M.A., 134:1911, Aug. 9, 1947.

5. Dublin, L. I., and Spiegelman, N.: Mortality of medical specialists, 1938-1942, J.A.M.A., 137:1519, Aug. 21, 1948.

6. Hunter, F. T., Merrill, O. E., Trump, J. G., and Robbins, L. L.: The protection of personnel in roentgenology and radiology, New Eng. J. of Med., 241:79, July 21, 1949.

7. International Recommendations for X-ray and Radium Protection, Radiology, 23:622, 1934; Ibid., 30:511, 1937.

8. Low-Beer, B., and Scofield, N.: Personal communication.

9. National Bureau of Standards, U. S. Department of Commerce: X-ray Protection Handbook No. 20, Washington, Government Printing Office, 1936.

10. National Bureau of Standards, U. S. Department of Commerce: Medical X-ray Protection Up to 2,000,000 Volts, Handbook No. 41, Washington, Government Printing Office, 1949.

11. Newell, R. R.: Personal communication.

12. Parker, H. M.: Health Physics, Instrumentation and Radiation Protection, M.D.D.C., p. 783.

13. Roberson, J. R., Deal, L. J., and Day, F. H.: Roentgen-ray calibration of photographic film exposure meter, Am. J. of Roent., 59:731, May 1948.

14. Rollins, W.: Notes on x-light; vacuum tube burns, Boston Medical and Surgical Journal, 146:39, Jan. 9, 1902.

15. Taylor, L. S.: The work of the national and international committees on x-ray and radium protection, Radiology, 19:1, July 1932.

16. Tierney, R. B., and Deglow, R. E.: Radiation protection for the x-ray technician, The X-ray Technician, 21:140, Nov. 1949.

17. Tochilin, E., Davis, R. H., and Clifford, J.:A calibrated x-ray film badge dosimeter, ADP-78 (unclassified), American Journal of Roentgenology, 64:475, Sept. 1950.

Therapeutic Perspective

Jud R. Scholtz, M.D., and Craig Williamson, M.D., *Pasadena*

SUMMARY

Unless proper perspective is maintained in medical therapeutics, a physician in his earnest desire to cure disease may often use measures which may ultimately cause more damage than the disease being treated.

In order to avoid loss of perspective, it is necessary to balance the known consequences of the disease against the expected benefits of the treatment minus the known hazards of the treatment.

"Perspective: A view including distance as well as foreground, hence, a far-reaching mental view, in which things appear in proper relation to each other."

IN medical therapeutics, "perspective" means considering the long-term consequences of treatment as well as immediate results; and seeing things in their proper relation to each other implies that the methods used in treatment must not be more dangerous to the patient than the condition for which treatment is given. Hippocrates more than 2,300 years ago expressed the idea thus: "The ideal of the true physician is to do good, or at least to do no harm."[1]

In looking over the history of medical therapy, numerous instances may be noted in which perspective was lost, and in which the treatments employed resulted in more harm to the patient than would have been done by the untreated disease. (And this with the treatment carried out in "proper fashion." The authors are not here concerned with misuse of therapeutic measures, but consider strictly the *inherent qualities* of a given method, correctly applied.)

The purpose of this paper is to point out certain examples of loss of therapeutic perspective, and to suggest a simple formula to be kept in mind when deciding on selection of therapeutic procedures.

When certain essential facts are known, it is not difficult to maintain proper perspective. These data in general terms include:

1. Known consequences of the disease
2. Expected benefits of the treatment
3. Known hazards of the treatment

Under ideal conditions, the factors are known on a statistical basis, and decisions are made with relative ease. For example:[2]

a. Outcome of untreated syphilis—25 per cent mortality rate.

b. Expected benefits of arsenical treatment—95 per cent survival.

c. Mortality rate from adequate arsenical treatment—0.3 per cent.

Hence, net gain with arsenical treatment (25 less 5.3)—19.7 per cent.

Unfortunately, corresponding data are not available on most diseases and drugs and other agents used in treatment of them. On the other hand, in dermatology there are relatively few diseases in which the questions of death, or even serious disabling consequences, come into consideration, and for this very reason, choice of therapy must be made with the greatest of care. For example, in the treatment of plantar warts:

a. Outcome of untreated disease, in terms of serious consequences—zero.

b. Expected benefits of treatment with roentgen radiation—no better than many other potentially less dangerous treatments.

c. Known hazards of roentgen therapy in currently recommended doses — possible radiodermatitis, carcinoma (and death in some instances).

In these circumstances, roentgen treatment in dosage recommended at present is obviously to be condemned.

A few examples of apparent loss of therapeutic perspective:

1. A three-month-old baby girl had eczema of the lower abdomen and vulva, the eruption having been present six weeks. She had been treated previously by two certified dermatologists, both of whom had given x-ray treatment to the vulva and the lower abdomen.

Questions:

a. Does anyone know how much radiation at 80 to 100 kv reaches the ovaries through the abdominal wall of a three-month-old infant, and what the effects are on the ovary?

b. Is x-ray so indispensable in the treatment of eczema that risks such as this must be taken?

c. Are the *known* possible consequences of the disease as serious as the *known* possible consequences of therapy?

2. An eight-year-old girl was observed at a meeting. The diagnosis was eczema and very questionable lupus erythematosus. The latter diagnosis was so questionable that all dermatologists present, except the physician presenting the case, felt that lupus erythematosus was not to be seriously considered. Included in the treatment the patient received were

From the Department of Medicine (Dermatology), School of Medicine, University of Southern California.

Presented before the Section on Dermatology at the 79th Annual Session of the California Medical Association, April 30-May 3, 1950, San Diego.

eight weekly intramuscular injections, 5,000 units each, of theelin.

Questions:

a. Did the physician know exactly what this amount of estrogen might do to the patient in relation to growth and effect on pituitary-gonadal function?

b. Does theelin have particular proven value in lupus erythematosus?

c. Even if it had great known value, would it be justified in the face of very questionable evidence for diagnosis of lupus erythematosus?

3. For many years, so-called Vincent's infection of the gingiva was treated by many physicians with arsenobenzols, such as neoarsphenamine, given intravenously. The known mortality from Vincent's angina is zero. Many instances of hemorrhagic encephalitis and death have occurred following one to three injections of neoarsphenamine and are reported in the literature, including deaths in cases of Vincent's treated with one to three injections of neoarsphenamine. In spite of this, Vincent's gingivitis was treated with intravenous arsphenamines until penicillin became available.

4. In a case presented at a dermatological society meeting, the diagnosis was granuloma annulare. The treatment given was 50,000 units of calciferol thrice daily for several weeks.

Questions:

a. Are the possible consequences of granuloma annulare as serious as the possible consequences of large doses of calciferol?

b. Is such treatment justified, even if calciferol were a specific treatment (which it is not) for granuloma annulare?

5. A 22-year-old college girl had three circular areas of atrophy, telangiectasia, and beginning keratoses on the fingers of the right hand. Each area was sharply marginated. One measured 1 cm. in diameter, the others 0.7 cm. These were the sites of warts which had been treated with x-ray (two exposures to each lesion) by a certified specialist two years previously. There is no reason to doubt that the treatment was carried out properly as defined in modern textbooks, and it is of interest to note that no area was greater than 1 cm. in diameter. There seems little doubt that the consequences of treatment in this case were more dangerous to the patient than the disease for which she received treatment. (The authors' records of the last three years contain seven such cases, involving fingers or plantar surfaces, in all of which treatment had been given by certified radiologists and dermatologists.)

6. Radiation therapy of strawberry nevus over the elbow or wrist or any other radiosensitive anlage, in persons who have not reached full physical development. The amount of radiation used in treating strawberry nevus in many instances is more than enough to interfere with the development of ossification centers and to cause failure of normal development of the limb or organ. Such cases have already been reported.[3, 5] A large vascular nevus over a joint is not as serious as a non-functioning joint.

Loss of perspective is often the result of the physician's sincere and intense desire to help the patient; all physicians must frequently find themselves in such a position. The only purpose of this presentation is to respectfully urge that the idea of therapeutic perspective be kept constantly in mind.

REFERENCES

1. "Hippocrates," the Loeb Classical Library; W. H. S. Jones, translator; Wm. Heinemann, Ltd., London, 1948.

2. Moore, J. E.: Modern Treatment of Syphilis, 1933, Chas. Thomas Co., Baltimore.

3. Newcomer, W. S.: Developmental changes following irradiation, Amer. J. Roentgenol., 36:338, 1936.

4. Schamberg, J. F., and Wright, C. C.: Treatment of Syphilis, Appleton & Co., New York, 1932, pp. 304-320.

5. Underwood, G. B., and Gaul, L. E.: Disfiguring sequelae from radium therapy: Result of treatment of a birthmark adjacent to the breast in a female infant. Arch. Derm. and Syph., 57:918, May 1948.

Thalassemia (Mediterranean Disease) Occurring in Filipinos and Chinese

John M. Nilsson, M.D., *San Mateo*, Harold Mills, M.D., *Los Angeles*, and George W. Miners, M.D., *Redwood City*

SUMMARY

Five cases of thalassemia minor in persons of Filipino and Chinese extraction were observed.

The occurrence of biliary calculi in two of the patients suggests that this may be a relatively common complication of thalassemia as it is of other hemolytic diseases.

THE purpose of this communication is to report the occurrence of thalassemia minor in three Chinese and two Filipinos. Thalassemia (Mediterranean disease, target cell anemia) was originally considered to occur exclusively in persons of Mediterranean origin, particularly those of Sicilian, Italian, Syrian, Greek and Armenian descent. However, the condition has been diagnosed in persons of Jewish,[7] Spanish,[5] Argentine,[1] and Negro origin.[9] Chinese with this condition have been observed,[2, 3, 4, 10, 12] and recently two young Filipino brothers were reported as possibly having the disease, although all the usual diagnostic criteria were not recorded.[11] In a search of the medical literature no other reports of this disease in the Filipino race were found.

GENETICS

Thalassemia occurs in two distinct forms. The first, thalassemia major (classical Cooley's anemia), has prominent clinical features and the prognosis is poor; the second, thalassemia minor, has relatively insignificant clinical features and the prognosis is good. An intermediate group consisting of the milder forms of thalassemia major and the severer forms of thalassemia minor is also recognized. It has been postulated that thalassemia major may be due to homozygosity for a factor which, in a heterozygous person, results in thalassemia minor.[13] Thus, the major form of the disease occurs when both parents transmit the trait, and the minor form when one parent transmits it.[12]

LABORATORY FINDINGS

The characteristic laboratory findings in thalassemia minor are: (1) Hypochromic, microcytic anemia as determined by the Wintrobe indices, (2) morphologic changes far in excess of the degree of anemia, with the occurrence in the peripheral blood of target cells, hypochromic macrocytes, ovalocytes, and occasional stippled cells, (3) increased resistance of erythrocytes to hypotonic saline solution, and (4) occasionally, elevated serum bilirubin, increased fecal urobilinogen excretion and reticulocytosis as evidence of a hemolytic process.

The most typical finding in the peripheral blood is the presence of abnormally thin cells, the leptocytes. These may take the form of cells wide in diameter with only a thin rim of hemoglobin (the so-called hypochromic macrocytes[12]), or they may contain a central area of hemoglobin in addition to the peripheral rim, in which instance they are called "target cells." Target cells occur in approximately 50 per cent of the cases, and occasionally, hypochromia is the only abnormality noted. The number of erythrocytes may vary greatly from time to time in the same patient and frequently reaches polycythemic levels, but the packed volume of the red cells remains relatively constant and is usually below normal. Even with polycythemia, the average hemoglobin content and concentration in the erythrocytes are low, in keeping with the characteristic hypochromia.

MANAGEMENT

The management of patients with thalassemia minor is conservative, for the great majority of persons with this disorder have no symptoms referable to it. Iron, liver extract and the other common antianemia preparations are of no value, and transfusion therapy should be avoided, for, as a result of multiple transfusions, hemosiderosis and perhaps a hemochromatosis-like state may occur.[6, 8, 14]

COMMENT

Table 1 contains the pertinent data obtained in the studies of five patients with thalassemia minor. Patients 1 and 2 said they were of pure Filipino extraction, and patients 4 and 5 were said to be of pure Chinese extraction. Patient 3 stated that one of his parents might have Mexican blood, but that otherwise he is of pure Chinese ancestry. None had symptoms which might be an expression of anemia, and in each patient the disorder was discovered accidentally during the course of hospitalization for unrelated disease. In two instances biliary calculi were encountered. This complication, common in other familial hemolytic diseases, is not mentioned in the literature as a common finding in thalassemia minor. It is possible that the presence of biliary

From the Medical Service, Veterans Administration Hospital, San Francisco.

Reviewed in the Veterans Administration and published with the approval of the Chief Medical Director. The statements and conclusions published by the authors are the result of their own study and do not necessarily reflect the opinion or policy of the Veterans Administration.

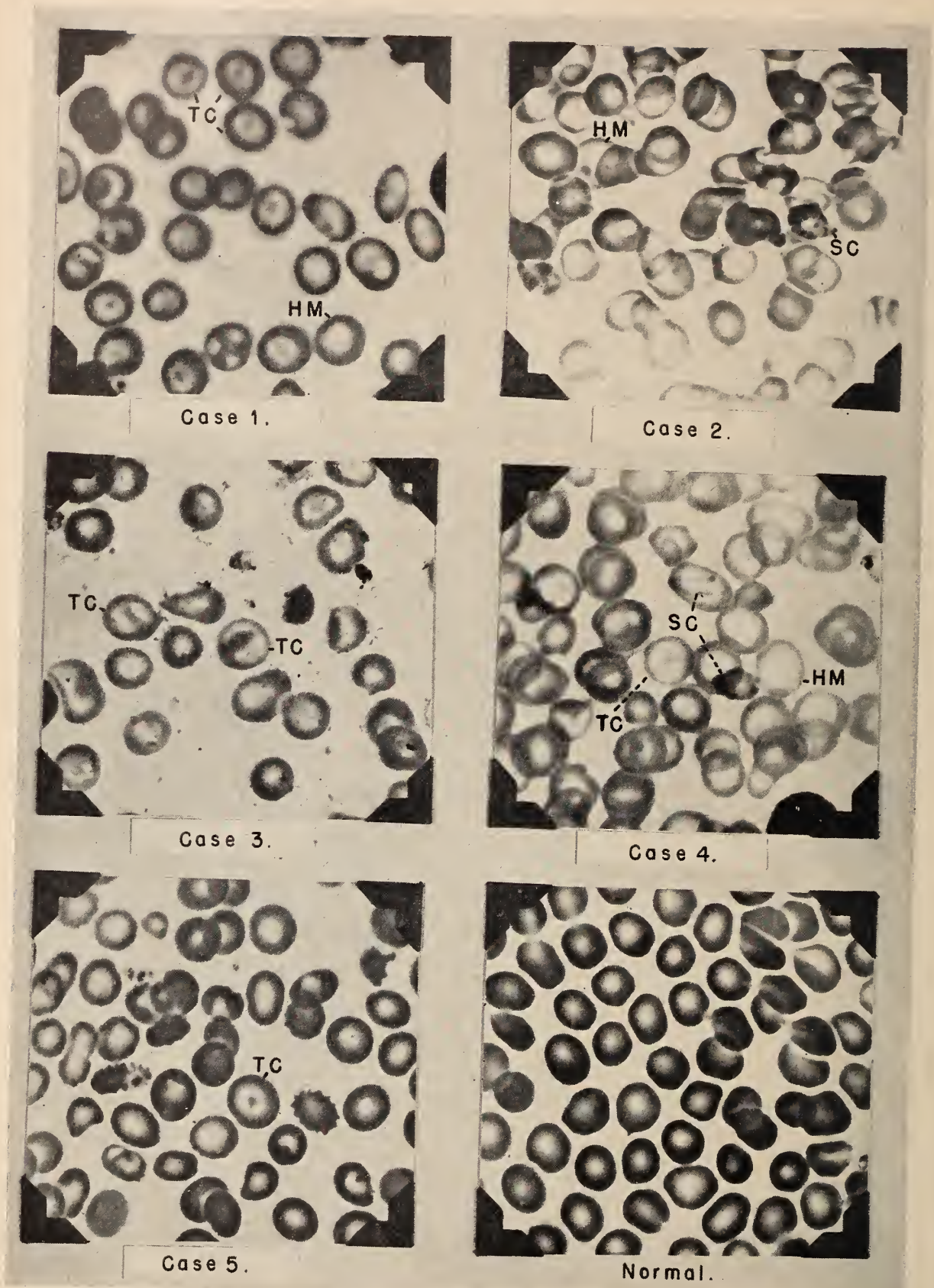


Fig. 1. Peripheral blood smears of patients in this report (x 1164). A normal blood smear is included for comparison. Note the pronounced morphological changes, target cells (T.C.), hypochromic macrocytes (H.M.) and stippled cells (S.C.).

TABLE 1.—*Pertinent Laboratory and Clinical Data in Five Cases of Thalassemia Minor*

	Normal Values	Patient 1	2	3	4	5
Race		Filipino	Filipino	Chinese	Chinese	Chinese
Age		36 yr.	40 yr.	35 yr.	35 yr.	8 mo.
Sex		Male	Male	Male	Male	Female
Hemoglobin (gm. per 100 cc.)	14.5	12.0	10.5	10.5	11.5	11.0
Erythrocytes (million per cu. mm.)	5.0	5.9	5.2	5.8	6.9	5.7
Mean corpuscular volume (cubic microns)	82-92	79	73	74	78	.....
Mean corpuscular hemoglobin (micro micrograms)	27-31	21	20	18	19	.....
Mean corpuscular hemoglobin concentration	32-36%	27%	27%	26%	24%	.....
Blood Smear (Fig. 1)						
Target cells	*See	+++	++	++++	++++	+
Poikilocytosis	foot-	+	+++	++	++	+
Anisocytosis	note	++	+++	++	+++	++
Stippling		0	+++	++	++	0
Reticulocytes (%)	0.5-2.0	2.3	2.2	1.8	3.4	.....
Fragility (range of concentration required for hemolysis)	±0.45 to ±0.32	Patient 0.46 0.14 / Control 0.46 0.30	Patient 0.38 0.16 / Control 0.44 0.32	Patient 0.42 0.14 / Control 0.46 0.32	Patient 0.50 0.14 / Control 0.48 0.32	Patient 0.42 0.18 / Control 0.46 0.30
Serum Bilirubin	Below					
1 min. (mg. per 100 cc.)	0.4	0.24	0.08	0.1	0.11	.....
30 min. (mg. per 100 cc.)	0.7	0.10	0.92	0.45	0.79	.....
Fecal urobilinogen excretion (mg. in 24 hr.)	40-280	74	224	95	327	.....

Remarks:

Patient 1: No hepato- or splenomegaly.
Patient 2: No hepato- or splenomegaly.
Patient 3: Biliary calculi, 1945-47. No hepato- or splenomegaly. ? Mexican ancestry.
Patient 4: Biliary calculi, 1942. No hepatomegaly. Spleen palpable 3 finger breadths below left costal margin. Father of Patient 5.
Patient 5: Daughter of Patient 4. Mother is normal.

*In order to estimate the peripheral blood findings quantitatively, the following system was used: Target cells and cells showing poikilocytosis and anisocytosis were counted along the periphery of the blood smear where the total number of erythrocytes per oil immersion field (O.I.F.) varied between 140 and 160. The concentration of these cells was graded as follows: 1+ = 1 to 5 cells per O.I.F.; 2+ = 6 to 10 cells per O.I.F.; 3+ = 11 to 20 cells per O.I.F.; 4+ = more than 20 cells per O.I.F. The number of stippled cells was graded as follows: 1+ = .025 per cent to .1 per cent per O.I.F.; 2+ = .1 per cent to .5 per cent per O.I.F.; 3+ = .5 per cent to 1 per cent per O.I.F.; 4+ = 1 per cent to 5 per cent per O.I.F.

calculi in two patients was coincidental, but it seems more likely that this complication was the result of the hemolytic process characteristic of thalassemia.

Mills Memorial Hospital.

REFERENCES

1. Caselli, E. G., and Sribman, I.: Cooley's anemia, with report of case; historical study and Argentine pediatric literature, Arch. Argent. De Pediat., 24:187-196, Sept. 1945.

2. Foster, L. P.: Cooley's syndrome (erythroblastic anemia) in Chinese child, Am. J. Dis. Child., 59:828-834, April 1940.

3. Gardner, L. B.: Erythroblastic anemia in two Chinese boys, J. Pediat., 31:347-354, Sept. 1947.

4. Greenblatt, I. J., Cohn, T. D., and Deutsch, H. L.: Mediterranean target-oval cell syndrome in adult Chinese male, Ann. Int. Med., 24:259-261, Feb. 1946.

5. Jaso, E., Reinlein, J. M. A., and Urdapilleta, J. P.: Cooley's anemia, first Spanish case, Rev. Clin. Espan., 4:425-429, March 30, 1942.

6. Muirhead, E. E., Crass, G., Jones, F., and Hill, J. M.: Iron overload (hemosiderosis) aggravated by blood transfusions, Arch. Int. Med., 83:477-501, May 1949.

7. Schieber, C.: Target-cell anemia: Two cases in Bucharan Jews, Lancet, 2:851-852, Dec. 29, 1945.

8. Schwartz, S. O., and Blumenthal, S. A.: Exogenous hemochromatosis resulting from blood transfusions, Blood, 3:617-640, June 1948.

9. Schwartz, S. O., and Mason, J.: Mediterranean anemia in the Negro. A report of four cases and their families, Blood, 4:706-721, June 1949.

10. Scott, A. V.: Cooley's anemia (Mediterranean anemia) in Chinese child, Chinese Med. J., 65:77-84, March-April 1947.

11. Slaten, E. F.: Familial erythroblastic anemia (Cooley's anemia); possible cases in two Filipino brothers, Hawaii Med. J., 7:210-213, Jan.-Feb. 1948.

12. Smith, C. H.: Detection of mild types of Mediterranean (Cooley's) anemia, Am. J. Dis. Child., 75:505-527, April 1948.

13. Valentine, W. N., and Neel, J. V.: Hematologic and genetic study of the transmission of thalassemia, Arch. Int. Med., 74:185-196, Sept. 1944.

14. Wyatt, J. P., and Goldenberg, H.: Hemosiderosis in refractory anemia, Arch. Int. Med., 83:67-76, Jan. 1949.

Irradiation Treatment of Lymphoid Hyperplasia of the Nasopharynx

James B. Irwin, M.D., *San Diego*

SUMMARY

Irradiation is useful in the destruction of hypertrophied lymphoid tissue which cannot be surgically removed.

Beta, gamma and roentgen rays have been used for this purpose. With beta rays, surface tissue must be subjected to relatively high dosages if effective radiation is to be delivered to deeper-lying tissues. This disparity is less when gamma rays are used, less still in the case of x-rays.

With the possibilities of permanent damage considered, choice of method depends upon the location and extent of the excess lymphoid tissue to be destroyed and the mechanical difficulties of reaching it with effective irradiation without hazard to intervening or surrounding tissue.

IN the past ten years irradiation of the nasopharynx has become a widely used method of reducing excess lymphoid tissue. Lederer[7] pointed out that the method was used to a great extent during the 1920's but then in most places was abandoned. Surgical removal of excess nasopharyngeal lymphoid tissue has been done for years. However, it is often impossible to remove all of the lymphoid tissue at operation, especially that lying around the orifice of the eustachian tube and that in the fossa of Rosenmuller. Also, sometimes there is regrowth of lymphoid tissue following operative removal. It was for the purpose of removing this excess lymphoid tissue after operation that irradiation methods were developed, and irradiation has been used successfully for this purpose for almost 30 years. Originally x-rays and gamma rays were used. Crowe[9] and his associates have used radon or beta irradiation for many years. During World War II Crowe helped design a beta radium applicator in order to permit treatment of more patients than was possible with the radon applicator because of the deterioration factor.

Irradiation of the nasopharynx is used in cases of impaired hearing and of chronic upper respiratory infection. Crowe and his associates have done a large amount of work in this field and are probably responsible for the widespread use of the monel radium applicator. They have expressed the belief that obstruction of the orifice of the eustachian tube by hypertrophied lymphoid tissue is an underlying factor in many cases of impaired hearing and that, if the condition is not relieved, permanent damage may result.

There are considerable differences among the various types of irradiation. The beta radium applicator, which is the most recent innovation, does not have as high an output as the radon applicator due to the filtration by the radium salt in the plaque.

Table 1 shows the roentgen equivalent delivered at various depths by the 50 mg. beta radium monel applicator. These data were presented by Braestrup[1] at the 1949 meeting of the Academy of Otorhinolaryngologists. Since that time, measurements have been made on other 50 mg. nasopharyngeal radium monel applicators similar in construction to the one used in Braestrup's study. Variations in the dosage rate, at the surface, between individual applicators were of the order of 15 per cent. It will be noted that the surface in contact with the applicator receives an extremely large dose, while 5 mm. away only one-sixteenth of the surface dose is delivered and at 10 mm. one seventy-fourth is delivered. Crowe[3] pointed out that the erythema dose delivered by the radium applicator in the nasopharynx is not the same as the erythema dose delivered to a flat surface, such as the skin, where an erythema dose is ordinarily determined. The contour of the nasopharynx is irregular and only half of the length of the applicator touches the mucous membrane. The points at which the applicator does touch the surface must receive intense irradiation.

Table 1.—*Roentgen Equivalents Delivered by Beta Radium Monel Applicator*

Depth mm.	Equivalent Roentgens for 1 min.	12 min.	36 min.
Surface	370	4,450	13,300
0.5	225	2,700	8,100
1	168	2,020	6,050
2	96	1,152	3,460
3	58	696	2,088
4	36	432	1,296
5	23	276	830
10	5	60	180
20	1.3	14.4	43

Bilchick and Kolar[2] observed some redness and edema following 12-minute exposure with the beta

Presented before the Section on Eye, Ear, Nose and Throat at the 79th Annual Session of the California Medical Association, April 30-May 3, 1950, San Diego.

applicator. They believe that the reason they have noted reactions in a greater percentage of cases than have other investigators is that they are very careful to shrink the turbinates before inserting the applicator so that it may be pushed well over to the lateral side of the nasopharynx. Bilchick and Kolar observed that the highest intensity of reaction occurred between the 11th and the 13th day. (Their observation corresponds with the author's experience.) Because of these reactions, they have shortened the exposure time to nine minutes and increased the interval between treatments to three weeks.

Table 2 shows the amount of radiation reaching different depths when using gamma rays, that is, a 50 mg. applicator with 0.5 mm. platinum filtration. This method of treatment is not as widely used as the beta ray, probably because it is necessary to treat the patient for approximately one hour at each sitting. From Tables 1 and 2 it is evident that with the beta applicator a very large amount of radiation is delivered at 1 mm. depth while only 2 per cent of this amount reaches a depth of 10 mm., whereas if gamma rays are used, 17 per cent of the amount delivered at 1 mm. reaches a depth of 10 mm.

TABLE 2.—*Radiation at Various Depths When Using Gamma Rays*[10]
(50 mg. Radium Applicator with 0.5 mm. Platinum Filter)

Depth	Equivalent Roentgens for— 30 min. = 25 mg. hr.	60 min. = 50 mg. hr.
1 mm.	1,125	2,250
1 cm.	200	400
2 cm.	50	100
3 cm.	22	45

Table 3 is a depth dose chart of two different voltages of x-ray. With x-ray the distribution of the irradiation is more homogeneous and the intensity on the surface is low when an adequate amount is delivered to the midline in the nasopharynx.

Figure 1 is an x-ray film showing a dummy beta radium applicator in place in the nasopharynx. The handle of the applicator was taped to the opposite side of the face in an attempt to force the radium against the lateral nasopharyngeal wall. After the location of the applicator in the midline was noted in this film, the applicator was placed in the same way in three other cases and x-ray films were made from the same position. In only one case of the four in which this method was used was the applicator successfully placed against the lateral pharyngeal wall. No attempt was made to shrink the turbinates, which perhaps was the reason for failure to place the radium in the proper position.

Figure 2 is an x-ray film taken with the dummy applicator in place and a silver catheter barely within the mouth of the eustachian tube. Care was taken not to extend the cannula up the tube. The radium-containing portion of the applicator is about

Figure 1.—Beta radium applicator in place in nasopharynx.

Figure 2.—Applicator in place and silver catheter barely within the mouth of the eustachian tube.

TABLE 3.—*Tissue Dose in Roentgens Corresponding to a Free Air Dose of 100 r at 50 cm. Focus Skin Distance.*

KVP	Filter	Area	Depth in Centimeters 0	1	3	5	7	10
140	0.25 mm. cu.	100 sq. cm.	138	134	109	81	61	39
200	0.5 mm. cu.	100 sq. cm.	136	133	109	82	63	31

1 cm. from the tip of the catheter which is barely within the orifice of the eustachian tube.

When the different types of irradiation are examined, it is apparent that for a very small amount of lymphoid tissue immediately surrounding the orifice of the eustachian tube the radium applicator would be the most desirable if it could be properly placed. Whether a filter of 0.3 mm. monel metal or one of 0.5 mm. platinum is better should be considered. If it were desirable to penetrate more than 2 or 3 mm., the platinum filter would be the more efficient. As the proponents of beta radiation state that the applicator is in actual contact with only half of the tissue to be treated, it would seem desirable to filter out the intense beta radiation. If that were done, the length of time for the application of radium would have to be greatly increased in order to deliver an effective dose.

If there is more than a very limited area of hypertrophied lymphoid tissue, other means than the present beta ray applicator would seem desirable. Morrison[8] described a new type of applicator with a flexible shaft designed so that the active radium-containing portion can be steered to the desired site. However, it would seem that considerable time might be needed to get the tip of the shaft in the proper position, and it would be difficult to be certain that the radium remained in the exact position desired. Also, if a large area were treated, the dose would be very irregular on the surface.

X-RAY IRRADIATION

The other means of irradiation is x-ray. This would seem to be the most logical if an area of more than 2 or 3 mm. away from the applicator is to be treated. There are two methods of application. One is to direct the ray through the side of the face in such a way as to cross-fire the nasopharynx. When this is done, the x-ray passes through the parotid gland and occasionally produces parotitis and usually some dryness of the mouth. These are temporary results and are not considered serious by most radiologists; no permanent damage to the parotid gland has been reported. The danger of damaging the growing mandible also has been considered. While such damage has been observed as a result of x-radiation of the mandible for tumor, only a small dosage is used for destruction of excess lymphoid tissue and no evidence of any damage to the bone has been reported.

The other method of applying x-radiation, and one which is advocated by Kerr,[6] is to put the cone into the patient's mouth and aim at the nasopharynx. Some radiologists use two fields, one to each side of the nasopharynx, while others use a single field to include both sides. Intraoral irradiation is very satisfactory if a large enough cone can be placed in the mouth and if the patient will hold his mouth and head in the proper position. When this approach is used, no x-ray reaches the parotid gland.

So far as the author has been able to determine, there are no reports of permanent damage in the nasopharynx following irradiation with the beta ray applicator. However, many radiologists feel that in cases in which the beta ray applicator is used there is a possibility that changes will occur later in life in the posterior nasopharyngeal wall because of the intense radiation to which that area is subjected in the course of treatment. When three applications of 12 minutes each are given at two-week intervals, a very large amount of radiation (13,300 r) is applied to the surface. Even though the entire applicator does not touch the surface, the points it does touch receive as much radiation as would be necessary to destroy a malignant lesion; and it is questionable that it is wise to submit the mucous membrane to such large dosage when there are methods of irradiating the lymphoid tissue which do not entail such intense radiation on the surface.

In choosing the kind of irradiation to be used, it is desirable to have accurate knowledge of the amount and location of the lymphoid tissue present. This information can best be supplied by an otolaryngologist who is skilled in the use of a nasopharyngoscope or a nasopharyngeal mirror. A lateral roentgenogram of the nasopharynx is of aid in determining the thickness of the lymphoid tissue on the posterior pharyngeal wall. It is considered advisable to remove the adenoid tissue surgically before irradiation is attempted. Fowler[4] advised operative removal of the adenoid tissue in the midline as this tissue prevents placement of the radium applicator in the proper position. A thorough examination of the hearing acuity should always be done by an otolaryngologist before radiologic treatment for impaired hearing is undertaken.

Recently there has been some difference of opinion as to the results obtained by irradiation. Guild's[5] conclusions on hearing acuity following irradiation differ from those of Crowe.[9] Guild expressed the opinion that accepted beliefs with regard to the effect of nasopharyngeal lymphoid tissue on hearing and with regard to the effectiveness of nasopharyngeal irradiation in treatment of impaired hearing need to be revised.

1831 Fourth Avenue.

REFERENCES

1. Braestrup, C. B.: Personal communication.

2. Bilchick, B., and Kolar, A. R.: Radium therapy for lymphoid tissue in the nasopharynx, The Annals of Otology, Rhinology and Laryngology, 59:78, March 1950.

3. Crowe, S. J.: Editor's note, Yearbook of Eye, Ear, Nose and Throat, page 494, 1949.

4. Fowler, E. P., Jr.: Irradiation of the eustachian tube, Archives of Otolaryngology, 43:1, Jan. 1946.

5. Guild, S. R.: Nasopharyngeal irradiation and hearing acuity, Laryngoscope, 60:55, Jan. 1950.

6. Kerr, H. D.: Personal communication.

7. Lederer, F. L.: Evaluation of irradiation of pharyngeal and nasopharyngeal lymphoid tissue, Annals of Otology, Rhinology and Laryngology, 50:102, March 1950.

8. Morrison, W.: Radium and the lymphoid tissue of the nasopharynx and pharynx, a new universal applicator, Archives of Otolaryngology, 50:300, Sept. 1949.

9. Proctor, D. F., Palvogt, L. M., and Crowe, S. J.: Irradiation of the lymphoid tissue in diseases of the upper respiratory tract, Bulletin of the Johns Hopkins Hospital, 83:383, Nov. 1948.

10. Quimby, E.: Quoted by Fowler.[1]

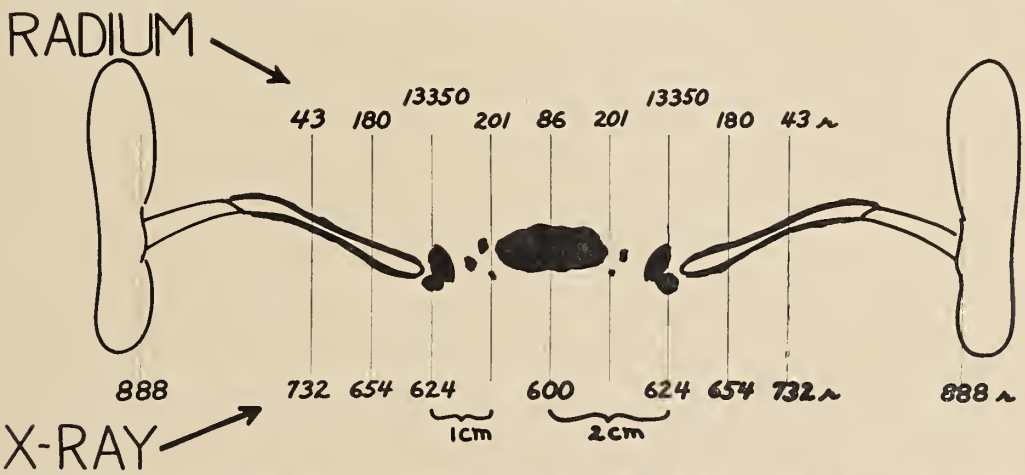
Discussion by Sydney F. Thomas, M.D., *Palo Alto*

Graphic representation of the dosage levels from the monel filter type of radium applicator for the nasopharynx is recommended as they appeared in the exhibit of Drs. M. E. Mottram, H. A. Hill and L. H. Garland (see chart).

Technical difficulties in the measurement of beta rays have been one of the most difficult stumbling blocks in the assaying of the dosage of radiation from these monel-filtered radium applicators (beta applicators). And we now have the knowledge that the dosage, as it can be measured, is extremely high, as pointed out by Dr. Irwin in the substance of his paper.

The failure of many physicians to take cognizance of very small changes in distances radically affecting the dosage of radium is pointed out, and it is no wonder that cases are reported showing radiation ulcerations from too high a dosage for a benign disease. It is pointed out in the paper that this is above a cancerocidal dose.

COMPARATIVE DOSES FROM X-RAY AND RADIUM—FULL COURSE—
FACTORS AS GIVEN BELOW*



NOTE HOMOGENEOUS IRRADIATION OBTAINED WITH X-RAYS AND UNEVEN DOSAGE WITH RADIUM (EXCESSIVE AT ORIFICES)

* Factors:

X-ray: H.V.L. 1.0 mm. Cu. 50 sq. cm. field. 40 cm. F.S.D. 100 r in air to each side X6.

Radium: Standard monel metal applicators with 50 mg. radium at each orifice. Three treatments of 12 minutes each.

CASE REPORTS

- Schwannoma of the Stomach
- Skin Granuloma Following Laceration by a Fluorescent Lamp
- Treatment of Diabetes Mellitus with Propylthiouracil
- Amnesia for Limbs—Diagnostic Value of Syndrome

Schwannoma of the Stomach

George E. Chappell, M.D., Carleton C. Wright, M.D., and Lewis E. Nolan, M.D., *Sacramento*

Askanazy is believed to be the first to describe an isolated neurofibroma of the stomach. More recently sporadic reports have appeared describing occasional cases and in 1948 West and Knox published experience with six cases of neurofibroma of the stomach and included a report of one case each of neurogenic sarcoma and leiomyoma. Their report did not state the incidence these six cases represented, but from the chronological aspect (1932-1948) it is considerably more than it was previously believed to be.

Statistics from the large surgical centers of this country and individual reviews of the literature generally agree that of all neoplasms involving the stomach, about 0.5 per cent to 2 per cent are of benign nature: and of the benign tumors of the stomach, about 5 to 10 per cent are neurofibromas. There have been several reports claiming a much higher incidence, but those reports included postmortem findings of benign tumors of the stomach which were asymptomatic during life and probably would have remained so had the patient lived. They were purely coincidental findings.

The reasons for considering a pathological entity which occurs so infrequently are, as enumerated by Kiefer: (1) the severity of the resulting symptoms; (2) the uniformly successful outcome with proper treatment, and (3) the possibility that malignant change may occur.

A classification of benign tumors of the stomach on an anatomical basis has been proposed by Carli. He enumerated four types: (1) those arising from the mucosal elements, such as polyps and adenomas, (2) those arising in the areolar tissues of the submucosal layer, such as lipomas, fibromas, angiomas, etc., (3) those that arise from the muscle layer and which constitute by far the greatest number of benign tumors, the leiomyomas, and (4) tumors originating in nerve elements of the stomach. This classification may serve to keep the possibilities of benign stomach tumors in mind, and for the sake of completeness, a fifth classification might be added—ectopic pancreatic tissue.

For some time there has been controversy over the pathological details of neurofibromas. It is generally agreed that they arise from the nerve sheath, but the exact component of the sheath is a controversial subject. Verocay, Masson, Stout, Willius and Laird have expressed belief that they originate in the ectodermally derived sheath of Schwann, and consequently they have used the term schwannoma for these tumors. Penfield held that the mesodermally derived epineurium or perineurium is the site of origin and he used the words neurofibroma and perineural fibroblastoma to describe the lesions. The term neurinoma, meaning nerve fiber tumor, which was introduced in 1910 by Verocay, seems inappropriate. Regardless of the nomenclature, the tumors in question usually are composed of fibrous tissue cells primarily and contain varying amounts of fragmental nerve fibers which require special stains to demonstrate. The nuclei of the fibrous tissue cells frequently are arranged in vertical rows, giving rise to the so-called "palisade" formation or regimentation which is the characteristic structural feature of neurofibroma.

In some cases this palisade formation is absent or is present only to a small degree, the nerve elements are more prominent and myxomatous changes are present in varying degree. Such tumors are thought to be more liable to undergo malignant degeneration.

The neurilemma or Schwann's sheath is a nonelastic, delicate membrane composed of cells that, like the links of a chain, enclose the axis cylinder throughout its length. The Schwann cells are of ectodermal origin and arise chiefly from the embryonic cells of Schwann or Lenhossek's lemmoblasts of the neural crest. The peripheral nerves are composed of fascicles of nerve fibers held together by connective tissue divided into endoneurium, epineurium and perineurium. Thus the neurofibroma may be derived from the sheath of Schwann or the neurilemma, or from the connective tissue of endoneurium, epineurium or perineurium, or from a mixture of the two elements. Tumors that are made up principally of Schwann cells are best termed schwannomas or neurilemmomas.

Grossly, the schwannoma is well circumscribed and, on cut section, stands out sharply from the surrounding tissue. Most such tumors are round or oval, pinkish-gray, of uniform texture and of soft to moderately firm consistency. Microscopically observed, they are described as fasciculated, reticular and epithelioid, with the three patterns not always sharply separated.

The nerve elements of the stomach are composed of the fibers of the vagus and the sympathetic nerves and the intrinsic plexuses of Auerbach (subserous) and Meissner (submucous). It is not known whether neurofibroma of the stomach shows any predilection for one or the other of the groups of nerves. Peripheral neurofibromas seldom affect the motor or sensory functions of the nerves involved, and judging by the low incidence of physiologic disturbance it would appear that the same is true of neurofibromas in the stomach.

The symptoms of neurofibroma of the stomach are due to mechanical effects. The most common symptom is hemorrhage, which may be severe. It usually begins without additional symptoms and is associated with clinical signs of exsanguination. Pallor, weakness, fainting, and tarry stools may be noted, all without simultaneous abdominal pain. Obstruction due to a ball valve action of the tumor dropping through the pylorus has also been described. In addition to these mechanical difficulties, in most cases there is history of vague anorexia, loss of weight and abdominal fullness for some time prior to the onset of more definite symptoms.

X-ray examination or gastroscopy usually is necessary to establish the diagnosis, but suspicion should be aroused by

From the Departments of Surgery, Roentgenology and Pathology of the Sacramento County Hospital.

a history of massive hemorrhage occurring on several occasions over a long period of time with no progression to cachexia or appearance of other diagnostic symptoms and signs. In most cases a filling defect can be observed in roentgen studies, and the benign nature of the tumor is suggested by the lack of induration of the wall of the stomach adjacent to the base of the tumor and by the fact that there is normal motility in the stomach wall up to the edge of the tumor-involved area.

The radiological findings in the case of schwannoma of the stomach observed by the authors and reported herein were similar, if not identical, to those associated with other benign tumors. There is no true diagnostic or differentiating point. The benign tumors, in general, appear as a well-defined sessile or pedunculated, rounded mass projecting into the lumen of the stomach. They may be as small as a small polyp or papilloma or so large as to fill the entire gastric lumen. Usually there is no disturbance in gastric motility and no invasion of the stomach wall. However, at times, the size and position of the tumor may be such as to cause partial pyloric obstruction. In the case of the larger tumors, an ulcer crater is frequently present at the apex of the mass. Perier, in a report of three cases of schwannoma of the stomach, described roentgenologic findings the same as those noted in the case reported herein, but added that similar findings may also be present in connection with leiomyomas. It is impossible to determine precisely the kind of lesion on the basis of roentgen evidence.

As benign tumors of the stomach may undergo malignant degeneration which is not at first detectable radiologically, operative intervention may not safely be delayed. The treatment, once the distressing symptoms are controlled, is excision. This may be a localized procedure, or, if there is question of malignant change, more radical stomach resection.

CASE REPORT

A 61-year-old white male entered the hospital Dec. 4, 1949, with complaint of tarry stools and weakness and fainting for three days. The body weight of the patient had decreased by 35 pounds in the preceding five years, but anorexia was not noted. Except for pallor, no abnormalities were observed in physical examination. The blood pressure was 100 mm. of mercury systolic and 50 mm. diastolic and the pulse rate was 120 per minute. The patient was treated supportively and several blood transfusions were given. When sufficient recovery had occurred, roentgen studies of the stomach were carried out. A large, intraluminal mass arising from the mid-portion of the lesser curvature was observed. The radiologic diagnosis was leiomyoma with ulceration of the tumor mass. Diverticulum of the duodenum was also noted. Results of gastric analysis were within normal limits of acidity. Seventeen days after the patient was admitted, the growth was removed en bloc by subtotal resection.

The resected segment of stomach was annular, 16 cm. at the greatest diameter. The stomach wall contained a submucosal and circumscribed, gray, rather soft nodule 3 cm. in diameter. A covering of ulcerated mucosa was observed in microscopic examination of a section of the tumor mass which lay in the mid-portion of the greater curvature of the stomach on the anterior side. The ulcer was covered with granulation tissue which rested on the large nodule in the stomach wall. The mucosa at the ulcer margin was of normal appearance. The tumor mass was made up of elongated cellular fibers with pronounced palisading and regimentation of the nuclei. The nuclei were elongated with tapering ends, had vesicular chromatin patterns, and approximated each other in size. There was a clear zone of cytoplasm at both poles of the cells. In the space between the regimented nuclei there was a loose arrangement of connective tissue cells with round, oval and elongated nuclei. The tissue was cellular throughout, but no malignant changes were observed. The pathologic diagnosis was neurilemmoma (schwannoma of the stomach), with chronic ulcer over the neurilemmoma.

The patient recovered and was discharged on the eighth postoperative day.

SUMMARY

A case of schwannoma of the stomach with overlying gastric ulcers is reported. The tumor was removed by subtotal resection and the patient recovered.

2710 Capitol Avenue.

REFERENCES

Askanazy: Cited by Willius.

Kiefer, E. D.: Benign tumors of the stomach, S. Clin. N. Amer., 21:711, June 1941.

Laird, W. R., and Nolan, L. E.: Significance of schwannomas, Am. J. of Surg., 61:418-420, Sept. 1943.

Masson, P., Experimental and spontaneous schwannomas, Am. J. Path., 8:367-389, July 1932.

Perier, E. A.: Schwannoma of the stomach, Presse Med., 53:134-135, March 17, 1945.

Stout, A. P.: The peripheral manifestations of the specific nerve sheath tumor (neurilemmoma), Am. J. Cancer, 24:751, Aug. 1935.

Verocay: Cited by Willius.

West, J. P., and Knox, G.: Neurogenic tumors of the stomach, Surgery. 23:450, March 1948.

Willius, R. A.: Pathology of Tumours, pp. 828-835, Butterworth & Co., Ltd., London, 1948.

Skin Granuloma Following Laceration by a Fluorescent Lamp

Report of a Case

Cooper Davis, M.D., and Orville F. Grimes, M.D.
San Francisco

SKIN lesions associated with exposure to beryllium compounds have been described mainly in conjunction with reports of pulmonary lesions found in industrial workers exposed to these compounds.[5, 12] Recent descriptions of subcutaneous granulomas at the sites of skin lacerations with fluorescent lamp fragments carry the problem, in some measure, from the industrial plant into the office and home. Seven such cases have been reported.[1, 6, 9, 10] Although the use of beryllium silicate, the offending substance, is presumably being discontinued by most manufacturers, the lamps in current use and in stock will present a danger for some time to come.[13]

CASE REPORT

In September 1948 a white 7-year-old boy received a single laceration approximately 1 cm. in length over the dorsal aspect of the proximal interphalangeal joint of the left middle finger from a broken fluorescent lamp. Treatment consisted of mercurochrome, applied at the time of injury; boric soaks, advised one week later when mild cellulitis was observed; and, when a moderate painless swelling occurred, a five-day period of penicillin therapy, warm compresses and bed rest. In spite of active treatment the lacerated area became progressively indurated, and by December 1948 a thickened, reddish, slightly tender granulomatous lesion had developed which intermittently exuded small amounts of thin, clear fluid (Figure 1).

Intradermal tuberculin and coccidioidin tests (each 1:1000) elicited negative reactions. The blood serum gave a negative

From the Department of Surgery, University of California School of Medicine, San Francisco.

reaction to the Kolmer test and to agglutination tests for typhoid, paratyphoid A and B, tularemia and brucellosis. In a radiologic examination no evidence of foreign body or bone destruction in the finger was noted; there was some suggestion of effusion in the proximal interphalangeal joint space. A roentgen film of the chest was normal.

In a biopsy specimen from the lesion in February 1949 portions of tuberculoid granulomas infiltrated with chronic inflammatory cells were observed. A few foreign body giant cells were noted, one of which contained a small triangular crystalline body. Nonhemolytic Staphylococcus albus and diphtheroid bacilli were grown on cultures of the biopsy material. In tests for acid-fast organisms, including guinea pig inoculation, tubercle bacilli were not demonstrated. In March 1949 the patient received a series of x-ray treatments to the involved finger (450 r in air).

When the patient was admitted to the University of California Hospital in April 1949 the fibrous granuloma measured 2 by 3 cm. and there was a 0.5 cm. patch of ulceration in the central portion of it. The area was not particularly tender and there was full range of motion of the proximal interphalangeal joint.

Spectrographic studies of the urine for beryllium content were not done. Radiologic studies of the finger again showed no evidence of foreign body, bone destruction or joint involvement. The soft tissue swelling was noted to be somewhat larger than on the previous examination.

The lesion was excised, including a 1 cm. margin beyond its indurated borders. The dissection was carried down to the extensor tendon, where it was apparent that the joint capsule was elevated and somewhat tense. The capsule was incised, allowing the escape of a small amount of clear fluid. A small mass of tissue, grossly resembling that of the choroid plexus, extended into the joint space and was excised. After closure of the capsule, the resultant defect on the dorsum of the finger was covered by a full thickness skin graft procured from the lateral anterior abdominal wall.

In microscopic study of the specimen (Figure 2) numbers of small tuberculoid granulomas were noted, each consisting of clusters of epithelioid cells lying in a fibrous stroma. In many of the tubercles there were central areas of hyalin-like necrosis. No giant cells or acid-fast organisms were noted. No glass particles were discovered in the specimen. A pathologic diagnosis of chronic granuloma of the finger, compatible with beryllium granuloma, was made.

Specimens of tissue and fluid removed from within the joint were tested for bacterial content by cultures and guinea pig inoculation but no organisms were demonstrated.

A portion of the specimen was examined spectrographically by a method described by Cholak and Hubbard.[2] No beryllium was found. (It should be noted that Cholak and Hubbard indicated that the lower limit of detectability by this method is 0.25 micrograms.) It was assumed that a smaller, undetermined amount of beryllium was present in the excised lesion.

The postoperative course was uneventful. The skin graft has healed satisfactorily. Although the joint area remained somewhat enlarged, there was normal, painless range of motion (Figure 3). In later x-ray studies of the finger no evidence of bone erosion or destruction was observed.

SUMMARY

A skin granuloma occurred at the site of laceration of a finger with a fluorescent lamp fragment. Because of certain characteristics noted in specimens examined microscopically, beryllium granuloma was diagnosed (although it could not be confirmed spectrographically) when results of tests to demonstrate other etiologic factors were negative. The treatment was wide excision of the lesion. In subsequent x-ray studies there was no evidence of involvement of the bone.

Figure 1.—The central ulceration was surrounded by an indurated, swollen, chronically inflamed area.

Figure 2.—The epithelioid cells form small granulomas which are strikingly similar to those found in tuberculous lesions.

Figure 3.—The postoperative photograph illustrates the size of the skin graft necessary to close the wound. Wide surgical excision of the beryllium granuloma is mandatory.

REFERENCES

1. Coakley, W. A., Shapiro, R., and Robertson, G. W.: Granuloma of the skin at site of injury by a fluorescent bulb, J.A.M.A., 139:1147-1148, April 23, 1949.

2. Cholak, J., and Hubbard, D. M.: Spectrographic determination of beryllium in biological material and in air, Analytical Chemistry, 20:73, Jan. 1948.

3. Fairhall, L. T., et al.: The Toxicology of Beryllium, Bulletin 181, National Institute of Health, Division of Industrial Hygiene, 1943.

4. Forsythe, W. E., and Adams, E. Q.: Fluorescent and Other Gascous Discharge Lamps, New York and Toronto, Murray Hill Books, Inc., 1948.

5. Gilman, I.: Beryllium (Glucinium), Occupation and Health Supplement, International Labor Office, Geneva, 1938.

6. Grier, R. S., Nash, P., and Freiman, D. G.: Skin lesions in persons exposed to beryllium compounds, J. Indust. Hyg. and Toxicol., 30:228-237, July 1948.

7. Hardy, H. L., and Tabershaw, I. R.: Delayed chemical pneumonitis occurring in workers exposed to beryllium compounds, J. Indust. Hyg. and Toxicol., 28:197-211, Sept. 1946.

8. Martland, H. S., Brodkin, H. A., and Martland, H. S., Jr.: Occupational beryllium poisoning in New Jersey, J. M. Soc. New Jersey, 45:5-14, Jan. 1948.

9. Nichol, A. D., and Dominguez, R.: Cutaneous granuloma from accidental contamination with beryllium phosphors, J.A.M.A., 140:855, July 9, 1949.

10. Shook, C. F., and Powell, J. P.: A beryllium case, Indust. Med., 17:403, Oct. 1948.

11. Titus, A. C.: Air contamination during machining of beryllium stainless steel. J. Indust. Hyg. and Toxicol., 30:29-31, Jan. 1948.

12. Van Ordstrand, H. S., Hughes, R., De Nardi, J. M., and Carmody, M. G.: Beryllium poisoning, J.A.M.A., 129:1084-1090, Dec. 15, 1945.

13. Wounds contaminated by beryllium phosphors, Queries and Minor Notes, J.A.M.A., 139:1047, April 9, 1949.

Treatment of Diabetes Insipidus with Propylthiouracil

Report of a Case

EDWARD KAYE, M.D., *Newman*

THE work of Mahoney and Sheehan[1] showing the abolition of experimentally produced polyuria and polydipsia in dogs by total thyroidectomy and the reestablishment of the symptoms following orally administered desiccated whole thyroid gland, suggested the use of a thyroid-inhibiting drug, propylthiouracil, in the treatment of this syndrome.

CASE REPORT

A white woman, 48 years old, who for two years had had severe headaches frequently accompanied by nausea and vomiting, had been admitted several times to the hospital with a diagnosis of migraine. These attacks responded more or less well to the usual therapeutic measures, and the patient was able to leave the hospital after three or four days on each occasion. Quite abruptly insatiable thirst developed and the patient urinated as often as every 15 minutes. Upon physical examination no abnormality was noted. The 24-hour volume of urine was in excess of 4,000 cc. and the specific gravity was very low. Treatment with Pitressin® tannate in oil relieved the polyuria and polydipsia for from 18 to 36 hours. The 24-hour output fell to less than 1,800 cc., and the specific gravity rose to more normal levels. Each dose of Pitressin® or Pituitrin,® which also was given, was followed by headaches, nausea and vomiting.

Propylthiouracil was given in a dose of 150 mg. daily. After three days the patient had no headache, nausea, vomiting, thirst, or frequency of urination. With no other medication than propylthiouracil the patient was symptom-free for 12 weeks except for two brief periods in which the drug was omitted and polyuria and polydipsia promptly recurred. While taking propylthiouracil the patient urinated only once every five or six hours; the specific gravity of the urine was greater than 1.015, and the 24-hour output was less than 1,800 cc.

Propylthiouracil was discontinued after five months, and at last report six weeks later there had heen no recurrence of polyuria or polydipsia.

SUMMARY

Polyuria and polydipsia developed suddenly in a patient who had been hospitalized several times with severe headaches, nausea and vomiting. Temporary remission of the polyuria and thirst was obtained with Pitressin,® but each dose was followed by headache and nausea.

Propylthiouracil, 150 mg. daily, was given, and after three days all symptoms abated. With no other medication the patient was symptom-free for the next 12 weeks save for two brief periods when the drug was omitted and polyuria and polydipsia promptly recurred. The drug was finally discontinued after five months; and the patient, when last observed six weeks later, had had no recurrence of excessive urination or thirst.

West Side Hospital, Newman.

REFERENCE

1. Mahoney, W., and Sheehan, D.: The effect of total thyroidectomy upon experimental diabetes insipidus in dogs, Am. J. Physiol., 112:250, 1935.

Amnesia for Limbs

Diagnostic Value of Syndrome

J. M. Nielsen, M.D., *Los Angeles*

Amnesia for the limbs of one side of the body is a symptom often encountered by those who treat cases of cerebral vascular lesions and tumors. The syndrome was known even before the turn of the century but did not come into general recognition in this country until about 1935. The amnesia may be episodic or constant, and it may be so severe that the patient has a delusion that the limbs are absent.

When the patient has amnesia for his limbs (usually the minor ones) he simply acts as though they were not there. He uses the leg for walking, usually deviating toward the affected limb, without stopping to think it strange that he can walk, but he does not pick anything up with the left hand and does not raise it when asked to raise his hands. He may allow the forgotten limb to hang over the side of the bed or he may awaken at night with what he considers the limb of another person across him.

In cases previously reported several striking manifestations have been encountered. A dentist bathed and dried the right side of the body and did not touch the left side until his wife called his attention to the fact. He then finished the bath but in dressing finished with the left side undressed. A woman was sitting in church when cerebral thrombosis involving the left limbs occurred. She said her left arm seemed to drop off and disappear and she had to examine herself with the right hand to determine that her left was still there. Another woman complained that her dead brother-in-law's arm was across her all the time and that an old rusty foot was in bed with her.

Whether the left side of the body can be reestablished in the patient's memory in time depends at least in part on the patient's psychologic make-up. Persons who are hard-headed factualists insist that the absence of one side is an absurdity and that they merely *feel* as though the left limbs are absent. Those who are gullible readily accept the absence of the limbs as fact. If the patient lives for six months or more after the amnesia develops he usually regains memory for the limbs; the longest period of amnesia for limbs so far observed was five years and in that case the patient died without recovering from the amnesia.

The system in the brain essential to remembering the limbs is the supramarginal cortex, thalamo-supramarginal peduncle of fibers, and the pulvinar of the thalamus. In all of 50 cases so far observed at autopsy the lesion was in the thalamus (pulvinar), in the supramarginal cortex, or between the two. Six cases have been observed in which the lesion was on the left side of the brain and the right limbs were involved. However, in most instances of such lateralization the patient, because of aphasia, cannot state his problem. Three additional cases in which the symptom was valuable in establishing localization of the lesion are herewith reported.

REPORT OF CASES

Case 1: A woman 42 years of age had a seven-year history of numbness of left limbs with development of Jacksonian seizures without loss of consciousness. There was amnesia for the left hand and partial astereognosis.

The past history was irrelevant except for three accidents. The first was an automobile accident 11 years before in which a knee was cut but there was virtually no injury of the head. The symptoms, however, began after this. In a second automobile accident, seven years previously, the teeth were broken. After this episode the symptoms became lateralized. One year before coming under observation the patient bumped her head on a piece of furniture and afterward had headaches.

After the first accident attacks of numbness of the fingertips of both hands and of the lips developed. The numbness was associated with a severe itch, not actual pain. After the second accident the numbness was lateralized to the left arm and leg and never disappeared entirely. About one year before the patient was examined by the author an attack occurred in which the left leg straightened out and the foot inverted. In that episode the patient fell. The patient described other attacks characterized by weakness, blurring of vision and straightening of the leg. More recently amnesia for the left hand had developed, with the patient occasionally unaware of having the hand or of holding anything in it. Because of this she had dropped things.

No significant abnormalities were noted in a general physical examination. Upon neurological examination, normal sense of smell was noted, but there was loss of interest and attention in homonymous half-fields at all times, with the so-called extinction phenomenon. At other times complete homonymous hemianopia was observed. The pupils were unequal, the left being larger, but reaction to light was good. The fundi of the eyes were normal, and hearing was normal. The hand grips were equally weak. All deep reflexes were increased on the left but Babinski's sign was not elicited. There were hypesthesia to touch in the left hand and a defective stereognosis. At times it was clear that the patient forgot the left limbs; she acted as though they were paralyzed or absent. When objects were placed into the left hand she did not accept them unless her attention was called to them. When asked to pick up anything with the left hand she used the right unless it was restrained.

A neoplasm (meningioma of the petrous ridge) was considered most probable. No lesion was observed in an air encephalogram. The patient's symptoms continued.

Case 2: A woman 50 years of age complained of periods of automatic behavior and bad memory. The patient had had tonsillectomy, appendectomy, removal of a tumor from the right breast, a rectal operation, and a hysterectomy. In an automobile accident 16 years previously, internal injuries and multiple fractures, including one of the pelvis, had occurred and the patient was unconscious for several days. A year later she was hospitalized and diagnosis of a functional condition was made. The patient was treated at various clinics and lost jobs because of "too much time out." The current diagnosis was hyperinsulinism. The liver "was not supposed to be working right."

The patient's chief complaint, however, was that of doing things without knowing later what she had done. She had transferred from one street car to another and had found herself out on a trip without knowing the purpose of it. She had episodes of smelling horrible odors of which she could not find the source, and she had concluded that the odors followed her about. She also had severe unilateral headaches but also headaches on both sides extending from the eyes back over the head.

Further, there were periods of wakening at night with delusion that the left side of the body was absent. At times, the patient said, she hunted with the right hand for the left and when she located it, it was cold and clammy. She shook it and rubbed it to reestablish life, which seemed to be gone.

No abnormality was observed in a general physical examination. In a neurological examination, anosmia was noted. This the patient explained on the basis of nasal congestion. However, the patient had dysosmia; certain perfumes made her nauseated, and bacon and coffee did not smell as they had earlier in her life. The pupils and eyegrounds were normal. There were no reflex changes, no abnormal reflexes, no loss of sensory perception, and no astereognosis. Consid-

Presented before the Section on Psychiatry and Neurology at the 79th Annual Session of the California Medical Association, April 30-May 3, 1950, San Diego.

erable emotional distress had developed "because" of the difficulties described by the patient. A tentative diagnosis of tumor at the base of the brain on the right side, perhaps a meningioma, was made and operation was recommended.

Case 3: A woman 38 years of age was referred with complaint of a feeling of unsteadiness when walking or standing. Although the patient considered herself to have been well up to three weeks before, inquiry elicited that there had been cacosmia seven months previously. At that time she had episodes of smelling foul odors which followed her about, and at the same time she had pains on the left side (which seemed to have been central in origin). She complained of feeling heavier on the left side; she stated that she was pushing three people ahead of her on that side and had poor use of the left hand. At times there was a sensation described as that of a vibrating machine affecting the left limbs, and the left leg would go to sleep, with soreness and a pin-and-needle sensation in it. The left limbs, the patient said, were cold and purple.

Upon physical examination the blood pressure was 160 mm. of mercury systolic and 104 mm. diastolic, and the pulse rate was 90 per minute. The muscles in general were doughy to palpation as in muscular dystrophy, but the skin was normal. In a neurological examination the sense of smell, fields of vision, and fundi of the eye were noted to be normal. However, the right pupil was 5 mm. and the left 3 mm. in diameter. The other cranial nerves were not affected. Except for absence of the tendoachillis reflexes, all deep reflexes were present and symmetrical although slight. Plantar response was entirely absent, and no pathological reflexes could be elicited. Sensory perception was normal throughout. Psychologically the patient was depressed, felt "beaten" and "heavy," and stated that life was not worth living.

Three weeks later the deep reflexes were absent. The patient did not use her left hand and acted as though it were absent unless she was asked to use it. In walking there was deviation to the left as in hemianopia, which, however, was not present. Bilateral simultaneous stimulation was perceived only on the right side.

COMMENT AND CONCLUSIONS

In three cases of amnesia for limbs, there were olfactory hallucinations in two, central pain in one, focal seizures with automatism in one, and the extinction phenomenon in two. The amnesia for limbs gave positive evidence of presence of the lesion in the thalamoparietal peduncle in each case and thus enabled determination of the anatomical site and also the extent of the lesion. If the symptom of amnesia for limbs is kept in mind, it is not difficult to detect even when the patient himself is unaware of it. As an aid in establishing the location of a cerebral lesion it is a valuable symptom. When the lesion is on the major side the patient usually cannot speak of it because of aphasia.

727 West Seventh Street.

California MEDICINE

OWNED AND PUBLISHED BY THE CALIFORNIA MEDICAL ASSOCIATION
450 SUTTER, SAN FRANCISCO 8 PHONE DOUGLAS 2-0062

Editor, DWIGHT L. WILBUR, M.D. *Assistant to the Editor,* ROBERT F. EDWARDS

Editorial Executive Committee

ALBERT J. SCHOLL, M.D., Los Angeles H. J. TEMPLETON, M.D., Oakland

EDGAR WAYBURN, M.D., San Francisco

For Information on Preparation of Manuscript, See Advertising Page 2

EDITORIAL

For Freedom in Medical Education

When the American Medical Association announced in December that it was contributing $500,000 to a fund to aid the country's medical schools, it planted an idea that appears to be taking root rapidly. Almost immediately other contributions began to roll in—unsolicited, voluntarily donated by those who believed sincerely in the cause of freedom of our medical schools.

Before formal plans for collection and allocation of funds for the medical schools were completed, various contributors were reported to have assembled close to $100,000 to add to the initial half million by the A.M.A. Board of Trustees. As an aid to the fund, and as representative of complete support of the idea, the Council of the California Medical Association has voted to contribute $100,000 to this worthy movement. Five of the nation's medical schools are in California. Other state medical associations are understood to be considering appropriations of their own, in line with their financial resources.

Right now the formal machinery for gathering and allocating these funds is in operation. There has been formed an Illinois non-profit corporation known as the American Medical Education Foundation, whose sole purpose will be to aid medical education through supplying necessary funds to needy schools. Sparked by a board of directors representing the highest officials of the American Medical Association in its policy-making, administrative and scientific branches, this foundation is dedicated to "provide unrestricted funds for the use of medical schools in the training of future physicians."

As was pointed out in the January issue of CALIFORNIA MEDICINE, the word "unrestricted" is the key to the entire movement of voluntary contributions to the medical schools. The Federal Government cannot use that word if it contributes tax funds to these schools; under its political and legal inhibitions, it would be bound in part at least to take over the management of the schools, in their curricula, teaching methods, personnel and even students. What rules and regulations would be built up under the existing governmental system of law by regulation rather than by statute, one can only imagine; if the operation of some other Government departments is a criterion, the regulation of medical schools would be carried out in such a way as to capture the institutions as bases for a push for state medicine.

The American Medical Education Foundation offers an opportunity for the physicians of the country to support their own schools and obviate the need for federal funds. Many questions as to details of the fund remain to be answered. However, there is sufficient brain-power on the board of directors to bring forth sound answers to these questions. Given a little time, this board will surely arrive at satisfactory policies to aid our medical schools and to satisfy the desires of those who contribute the funds.

At present the Foundation is aiming at annual contributions of $100 each from the practicing physicians of the country. It is intended to establish local or county committees to supervise and encourage such contributions, which will then be added to the general fund for distribution in an equitable manner. The Foundation is seeking an opinion as to the tax-deduction status of such contributions. While this question has not yet been answered, it is

reasonable to assume that the chances are good that such contributions will be considered deductible; after all, contributions to the parent universities are, by and large, tax-deductible. Regardless of this question, however, the need for immediate action by the medical profession is obvious. The schools need money now, and they will continue to need it from year to year while current economic conditions obtain.

All who have received it recognize that the cost of medical education is considerably greater than the amount students are required to pay for it. Each graduate physician therefore is beholden to the source of the funds, public or private, which make up the deficit. In discharging that obligation, physicians who may elect either to make tax-free unrestricting contribution to medical schools or to pay a considerable share of taxes to provide fettering government subsidies, will have little difficulty in making a choice.

Almost any physician who gives thought to the matter will readily recognize that a moderate contribution to this cause is in his own as well as in his profession's best interest. And the best time to contribute to this cause is now. Contributions now by physicians who think clearly and act promptly will not only help the fund but will serve as a stimulus for others. Details and forwarding forms are printed each week in the front pages of the *Journal* of the American Medical Association. They are there at hand for alert, quick-to-act physicians who wish to protect their profession as a scientific body, free of political domination and eager to advance along scientific lines.

CALIFORNIA MEDICAL ASSOCIATION

DONALD CASS, M.D. ..... President
H. GORDON MacLEAN, M.D. ..... President-Elect
LEWIS A. ALESEN, M.D. ..... Speaker
DONALD A. CHARNOCK, M.D. ..... Vice-Speaker
SIDNEY J. SHIPMAN, M.D. ..... Council Chairman
ALBERT C. DANIELS, M.D. ..... Secretary-Treasurer
DONALD D. LUM, M.D. ..... Chairman, Executive Committee
DWIGHT L. WILBUR, M.D. ..... Editor
JOHN HUNTON, Executive Secretary ..... General Office, 450 Sutter Street, San Francisco 8
ED CLANCY, Field Secretary ..... Southern California Office, 417 South Hill Street, Los Angeles 13. Phone: MAdison 8863

NOTICES AND REPORTS

C. M. A. 80th Annual Session

Physicians who attend the 80th Annual Session of the California Medical Association in Los Angeles, May 13-16, will have opportunity to hear discussions on recent developments in a wide variety of medical fields, to examine a greater number of new scientific and technical exhibits than ever before, and to select from an extraordinarily full and almost continuous program of medical motion pictures. Time for divertissement has also been provided. In order that members of the House of Delegates might not be called upon to be in two places at once, no scientific meetings are scheduled for the afternoons of Sunday, May 13, and Tuesday, May 15, when the House will be in session.

Now virtually completed, the program includes 174 scientific papers to be presented by California physicians and five eminent out-of-state guests.

GUEST SPEAKERS

The President's guest has not yet been announced, but other guests of the Association and the subjects they will discuss are as follows:

Macdonald Critchley, M.D., F.R.C.P., dean of the Neurological Institute, London—"Observations on Pain," and "Recurring Utterances in Aphasic Patients."

John B. Caffey, M.D., professor of clinical pediatrics, Columbia University College of Physicians and Surgeons, New York—"Some Recently Recognized Bone Lesions in Infants and Children," and "Radiologic Aspects of Chest Diseases in Children."

Herbert D. Maier, M.D., assistant clinical professor of thoracic surgery, Columbia University College of Physicians and Surgeons — "Primary Carcinoma of the Lung," and "Treatment of Tumors of the Esophagus."

Cyrus C. Sturgis, M.D., professor of internal medicine, University of Michigan Medical School—"The Treatment of the Anemias," "Some Recent Advances in Methods of Treating Thyroid Disorders," and "The Nature and Treatment of Leukemia and Allied Conditions."

In addition, the Section on Allergy has invited as its special guest **Frank Perlman,** M.D., clinical associate in medicine at the University of Oregon Medical School and consultant in medicine and allergy at Multnomah County Hospital, whose subject will be "Asthma and Cardiac Dyspnea."

The Section on General Medicine has invited **Marcy Sussman,** M.D., of Phoenix, Arizona, formerly clinical professor of radiology, Columbia University College of Physicians and Surgeons, to take part in a panel discussion following a symposium on "Diseases of the Lung."

Four panel discussions will be held in the course of the Annual Session:

"Diseases of the Lung"—Monday morning.

"Cortisone and ACTH"—Tuesday morning.

"Genito-Urinary Tuberculosis"—Tuesday morning.

"What's New in Pediatrics"—Wednesday morning.

A number of the scientific sections have arranged to have their entire sectional program in a single day, thus giving their members opportunity to attend meetings of other sections if they wish. In several instances two or more sections that have a common interest in a particular subject have made plans for joint meetings.

The Biltmore Theatre, meeting rooms in the Biltmore Hotel, two auditoriums in the Philharmonic Building and the auditorium of the Southern California Edison Building, nearby, will be used for general and sectional meetings. The medical motion picture program will be divided between available rooms in the Biltmore and an auditorium in the California Fruit Growers Exchange Building a block from the hotel.

HOTEL ACCOMMODATIONS

As a large part of the Biltmore Hotel will be given over to the California Medical Association for the four days of the convention, a limited number of accommodations are still available for members of the Association wishing to have rooms there. Requests for reservations should be directed to the C.M.A. office, 450 Sutter Street, San Francisco 8,

California. No deposit for reservations will be required.

It will be particularly important this year that persons attending the annual session register at the C.M.A. registration and information desk which will be located at the rear of the Ball Room. Badges will be given to registrants, and persons who do not have badges will not be admitted to rooms where scientific meetings are being held.

ENTERTAINMENT

A golf tournament will be held at the Wilshire Country Club Tuesday afternoon, May 15. Physicians wishing to enter may register with W. L. Roberts, M.D., Secretary of the Southern California Medical Golf Association, 727 West Seventh Street, Los Angeles. A golf dinner will be held Tuesday evening.

For the President's dinner, Monday night, the California Medical Association has taken over the Biltmore Bowl complete with its orchestra and entertainment.

A "no-host" cocktail party for all members of the Section on Eye, Ear, Nose and Throat, their wives and guests will be held Monday evening—the place and exact time to be announced. On Tuesday evening in Conference Room 2 of the Biltmore, the California Society of Allergy will have a dinner meeting—cocktails at 6:30, dinner at 7:00.

The Pre-Convention Conference of the C.M.A. Cancer Commission will be held in the Biltmore Hotel, Saturday, May 12. There will be morning and afternoon sessions. On the same day the California chapter of the American College of Chest Physicians will present a day-long scientific program at the Ambassador Hotel. Wednesday afternoon, May 16, the California Heart Association will meet and present a program at the Biltmore.

C. M. A.

Annual Preconvention Radiology Conference

Sponsored by the Cancer Commission

Biltmore Hotel, Los Angeles
Saturday, May 12
Conference Room 2

Notice to All Radiologists

Those members desiring to present diagnostic or therapeutic cases (biopsy-proven) are requested to communicate immediately with the following:

For Therapeutic Cases:

R. F. Niehaus, M.D. (Chairman), 1831 Fourth Avenue, San Diego.

For Diagnostic Cases:

M. A. Sisson, M.D. (Secretary), 450 Sutter Street, San Francisco.

Council Meeting Minutes

Tentative Draft: Minutes of the 377th Meeting of the Council of the California Medical Association, Los Angeles, January 27, 1951.

The meeting was called to order by Chairman Shipman in Conference Room 8 of the Biltmore Hotel, Los Angeles, at 9:30 a.m., Saturday, January 27, 1951.

Roll Call:

Present were President Cass, President-Elect MacLean, Speaker Alesen, Vice-Speaker Charnock, Councilors Ball, Crane, Henderson, Dau, Ray, Montgomery, Lum, Pollock, West, Heron, Frees, Thompson, Shipman and Bailey, Secretary Daniels and Editor Wilbur. Absent because of illness, Councilor Green.

A quorum present and acting.

Present by invitation during all or a part of the meeting were Dr. D. H. Murray, legislative chairman; Dr. Wilton L. Halverson, state Director of Public Health; Mr. Howard Hassard, legal counsel; John Hunton, executive secretary; William P. Wheeler, assistant executive secretary; Ed Clancy, field secretary; Ben H. Read, executive secretary of the Public Health League of California; Messrs. Clem Whitaker, Jr., and Ned Burman of public relations counsel; county society executive secretaries Waterson of Alameda-Contra Costa, Gillette of Fresno, Venables of Kern, Cochems of Los Angeles, Tobitt of Orange, Young of San Diego, Wood of San Mateo and Donovan of Santa Clara; and Doctors Conrad Baumgartner, Francis J. Cox, Russell G. Frey, Justin J. Stein, Russel V. Lee, J. Frank Doughty, E. Vincent Askey, J. Lafe Ludwig, Paul Foster, Eugene Hoffman, Clinton Thienes, James N. DeLamater, Charles Carpenter and Mr. William M. Bowman, executive director of California Physicians' Service.

1. *Minutes for Approval:*

(a) On motion duly made and seconded, minutes of the 376th Council meeting, held November 5, 1950, were approved.

(b) On motion duly made and seconded, minutes of the 224th Executive Committee meeting, held November 30, 1950, were approved.

2. *Membership:*

(a) A report of membership as of January 25, 1951, was received and ordered filed.

(b) On nominations duly made and seconded in each instance, eight applicants were elected to Life Membership. These were: J. J. Benton, Alameda-Contra Costa; Axcel E. Anderson, Fresno; Albert G. Bower, Los Angeles; Rex V. Graves and C. C. Violett, Orange County; C. B. Nagelmann and Lindsay Peters, Santa Barbara; Ream S. Leachman, Solano County.

(c) On motions duly made and seconded in each instance, eleven applicants were elected to Retired Membership. These were: Harry E. Foster, Forest C. Kracaw, Clifford Verne Mason and Milton Henry Shutes, Alameda-Contra Costa County; F. X. Ammann, Ralph W. Avery, George B. Greenbaum, Ward Hannah, Meyer H. Newman and Victor E. Stork, Los Angeles County; A. A. Shaghoian, San Mateo County.

(d) On motions duly made and seconded in each instance, seven applicants were elected to Associate Membership.

(e) On motions duly made and seconded, applications for reductions in dues for 13 applicants were voted.

3. *Financial:*

(a) A report of bank balances as of January 25, 1951, was received and ordered filed.

(b) Councilor Pollock suggested that, in view of existing inflationary influences, the Council consider placing some of its investment funds in securities other than U. S. Government obligations. A motion was made and seconded that a portion of investment funds be placed in other types of securities, on advice of investment counsel. A substitute motion, referring this matter to the Auditing Committee for study and report back to the Council, was made, seconded and adopted.

(c) Discussion was held on a resolution forwarded to the Council by the Los Angeles County Medical Association, requesting that the American Medical Association establish a system of collecting its dues direct from its members. On motion duly made and seconded, it was voted to forward this resolution to the A.M.A. for its consideration.

On motion duly made and seconded, it was voted to recommend to the A.M.A. Board of Trustees the consideration of steps to eliminate confusion as between membership and fellowship in the A.M.A.

4. *Public Policy and Legislation:*

Dr. Dwight H. Murray, chairman of the Committee on Public Policy and Legislation, reported that 5,167 bills had been introduced in the 1951 Legislature. Mr. Hassard discussed some of those with a direct bearing on the practice of medicine. The Council directed the Public Policy and Legislative Committee with respect to several bills.

5. *California Physicians' Service:*

Dr. Russell G. Frey, chairman of the C.P.S. Fee Schedule Committee appointed by the Council, reported on the development of a new fee schedule, which was approved by the Trustees of C.P.S. on December 17, 1950. Dr. Frey was complimented on the successful completion of a difficult assignment.

Mr. William Bowman, executive director of C.P.S., distributed and discussed a financial statement, described the new types of contracts being written and stated that when these contracts are in effect in all groups, they should provide between $2,000,000 and $3.000,000 annually in additional funds for payment to physicians. He reported that C.P.S. now has 1,040,000 beneficiary members.

Dr. J. Frank Doughty, president of the Board of Trustees, made a report on the policies of C.P.S. Trustees, particularly in relationship to the requests made by Administrative Members. Dr. Donald Cass, chairman of the C.P.S. Liaison Committee established following the 1950 Annual Session, followed with a report on the meeting of this committee. At the meeting it was decided to recommend the inauguration of the new fee schedule and the establishment of a family gross income of $4,800 annually as the service ceiling. Considerable discussion was held on these recommendations and it was moved and seconded that these changes be not put into effect on April 1, 1951, but should await the discussion of the 1951 House of Delegates. On vote, this motion was lost.

6. *Medical Research:*

Doctors Thienes, Carpenter and DeLamater discussed the proposed legislation developed by the Southern California Society for Medical Research to require that custodial animal shelters deliver unclaimed animals scheduled for destruction to licensed laboratories or teaching institutions. They decried the fact that the Association's legislative representatives had introduced in the 1951 Legislature a bill of a different type. Mr. Hassard, on request, discussed the differences in the approach of the two proposed measures and reported that the C.M.A. bill was similar to bills introduced by the Association for a number of years on the subject of humane pound legislation and licensure of laboratories or teaching institutions using animals.

On motion duly made and seconded, it was voted to approve the activities of the Association's legislative representatives on the subject of humane pound legislation.

7. *Committee on Industrial Accident Commission:*

Dr. Francis J. Cox, chairman of the Committee on Industrial Accident Commission, reviewed the work of his committee and requested that an appropriation of between $10,000 and $25,000 be made to permit the employment of experts to work toward the development of a schedule of fees based upon actual economic conditions and not, as at present, on the results of collective bargaining. Dr. H. Gordon MacLean reported on a meeting held by a special committee appointed by the Executive Commit-

tee (MacLean, Cass, Alesen) with Dr. Frank A. Dickinson of the A.M.A. on this subject. Dr. Dickinson's initial reaction was that such a fee schedule, while difficult to arrive at, would be extremely valuable. On motion duly made and seconded, it was voted to appropriate $15,000 for the purposes of such a study to be made under proper actuarial guidance through Dr. Cox's committee.

8. *Committee on Clinical Material for Teaching Hospitals:*

Dr. Conrad Baumgartner reported for the Committee on Clinical Material for Teaching Hospitals and pointed out that some teaching hospitals are now admitting teaching cases where the patient is covered with hospital and/or medical care insurance. A motion to table the recommendations of the committee was made and seconded but lost on vote. It was regularly moved, seconded and voted to refer the question to the committee for further study.

9. *Proposed Medical Economics Studies:*

Dr. Russel V. Lee reported on a proposal he had previously made to a member of the Legislature that a study of medical economics be undertaken, financed by the state and under auspices of the School of Business of Stanford University. He recommended that the Council approve such a study, whether or not it originated in state legislation.

Dr. Lee discussed a plan of insurance and requested the Council's advice thereon.

It was moved, seconded and voted that copies of two letters prepared by Dr. Lee on these two subjects be sent to members of the Executive Committee for their study and report to the Council.

10. *State Department of Public Health:*

Dr. Wilton L. Halverson, Director of Public Health, reported on his success in securing amendments to the statement of principles of the Section on Medical Care of the American Public Health Association. He was complimented on this action.

Dr. Halverson discussed proposed new hospital regulations which would include, among other things, the regulation of "Industrial and/or Emergency Hospitals or Clinics." The State Board of Health has not yet acted upon this portion of the proposed hospital regulations. After discussion it was moved, seconded and voted that this portion of the hospital regulations be not put into effect at this time, on the ground that existing statutes covering the subject of practicing under a fictitious name could control any abuses by such offices.

Dr. Halverson also reported on legislation proposed by his department, including several changes in the clinical laboratory laws, a smog research study under a $150,000 appropriation and a chronic disease study program under a $50,000 appropriation. General support of this program, with the exception of certain portions of the laboratory proposals and the chronic disease program, was expressed. The chairman notified Dr. Halverson that the Council had withdrawn its support of the proposed chronic disease study.

11. *Committee on Emergency Medical Service:*

Dr. Justin J. Stein, chairman of the Committee on Emergency Medical Service, reported on legislation now pending which would (1) place a physician on the State Disaster Council and (2) permit temporary licensure of out-of-state physicians and other professional personnel in event of emergency. Upon receipt of information from legal counsel, it was the sense of the Council that it was not necessary to issue temporary licenses to physicians but that emergency needs could be fully met in other ways; Mr. Hassard agreed to send Dr. Stein a memorandum to that effect.

Dr. Stein requested authority to hold a one-day meeting of county emergency medical service committee members and a motion was made, seconded and voted to authorize the conduct of such a meeting at an expense not to exceed $1,000.

On motion duly made and seconded, it was voted to authorize the chairman of the committee to confer with the Committee on Postgraduate Activities relative to the inclusion of speakers on civil defense in postgraduate programs, where such speakers are requested by local groups.

On motion duly made and seconded, it was voted to approve a statement by the committee relative to the inadvisability of mass immunization programs where conditions did not positively indicate the advisability of such procedures.

12. *Committee on Public Health and Public Agencies:*

Dr. Alesen referred to the report of the committee which was presented at the preceding meeting for study. On motion duly made and seconded it was voted to approve the philosophy of the report and to approve the activities of the committee to date.

Dr. Daniels reported on a conference with representatives of the State Department of Health and the California Tuberculosis and Health Association relative to cooperative survey of the health facilities of Mendocino County. The county medical society has indicated its approval of such a survey and on Dr. Daniels' recommendation, it was moved, seconded and voted that the Association cooperate in this survey, under the guidance of the Chronic Disease Committee.

Dr. West reported on meetings with representatives of the National Foundation for Infantile Paralysis, stated that further meetings were to be held and indicated hope for an equitable settlement of the question of compensation to physicians treating polio cases.

13. *Public Relations:*

Mr. Whitaker reported that a chiropractic initiative measure which had been circulated had apparently been discontinued.

He also reported that plans are under way nationally for a drive for endorsement against compulsory health insurance among selected groups and

on motion duly made and seconded he was authorized to prepare a presentation of such plans for Council consideration.

Mr. Whitaker commented on the proposed public relations program of the Advisory Planning Committee, pointing out that the basis of the program appeared entirely sound but that in the opinion of some observers the series of newspaper advertisements must occupy dominating space on the newspaper page.

14. *Advisory Planning Committee:*

Mr. Hunton reported on the January 26 meeting of the Advisory Planning Committee, at which time the committee asked that the Council give its approval to the theory of the program, so that a subcommittee could be appointed to work out details for presentation to the Executive Committee and the Committee on Medical Economics. On motion duly made and seconded, it was voted to approve the program in principle and authorize the committee to proceed on its detailing for subsequent approval.

Mr. Hunton also reported the decision of the committee in favor of issuing a news report to all Association members at monthly intervals, including in such letter all matters of current interest, at a cost not to exceed about $800 per issue. On motion duly made and seconded, it was voted to approve such publication.

15. *Blood Bank Commission:*

Dr. West reported on the first month's operation of the San Diego Blood Bank. He asked that the balance of the C.M.A. loan be made available to the blood bank, to carry it over its initial period when collections are slow. On motion duly made and seconded, it was voted to notify the San Diego Blood Bank that the C.M.A. Councilor in that district will serve as a liaison officer between the blood bank and the Association.

16. *White House Conference on Children and Youth:*

Dr. Hartzell Ray reported on his attendance at the White House Conference on Children and Youth and listed his observations of potentially resultant programs in the fields of social security legislation and various proposals for free meals, transportation and other services to all school children, regardless of need.

17. *Committee on Scientific Work:*

Dr. Daniels listed the guest speakers and nonmembers on the scientific program for the 1951 Annual Session and it was duly moved, seconded and voted to approve this list.

18. *Cancer Commission:*

Dr. Daniels presented a proposed program of cancer detection worked out between the Cancer Comission and the American Cancer Society. It was regularly moved, seconded and voted to approve this program.

19. *Secretarial Conference:*

It was moved, seconded and voted to hold a conference of county society secretaries in conjunction with a meeting of the Council, in San Francisco on March 17-18, 1951.

20. *San Francisco Medical Society Charter:*

A request was presented for Council approval of issuance of a new charter to the San Francisco Medical Society, formerly San Francisco County Medical Society. On motion duly made and seconded, it was voted to recommend to the House of Delegates the issuance of a charter under the new name.

21. *World Medical Associations*

On motion duly made and seconded, it was voted to contribute the annual amount of $1,000 to the World Medical Association.

22. *American Public Health Association:*

On motion duly made and seconded, it was voted to take out an individual annual contributing membership in the American Public Health Association, Western Division, in the amount of $100.

23. *California Taxpayers' Association:*

On motion duly made and seconded, it was voted to refer to the Executive Committee the request of the California Taxpayers' Association for a contribution to its work.

24. *California Academy of General Practice:*

On motion duly made and seconded, it was voted to permit the California Academy of General Practice to use the Association's mailing list to send announcements of a coming annual meeting to all C.M.A. members.

25. *Survey of Medical Technicians:*

On motion duly made and seconded, it was voted to table a request for funds to perform a survey of medical technicians.

26. *American Medical Education Foundation:*

On motion duly made and seconded, it was voted that it be the sense of the Council that the Association contribute to the American Medical Education Foundation, an organization sponsored by the American Medical Association, to assist medical schools and medical education, the amount of the contribution to be decided by the Executive Committee after consultation with officers in those county medical societies that can be quickly reached. An amendment to the original motion was made, seconded and adopted, providing that the amount of the contribution be in the neighborhood of $100,000. A second amendment, to provide for approval by the House of Delegates before any sum was decided, was moved and seconded but lost on vote.

27. *Health Insurance Council:*

Mr. Hassard discussed a request received from the Health Insurance Council, representing the insurance companies underwriting voluntary disability insurance, for discussions of the principle of physi-

eians' agreeing to accept indemnity allowances to policyholders as full fees for policyholders below an accepted income ceiling. It was regularly moved, seconded and voted to authorize the previous committee on this subject (Lum, chairman; Ray and Ball) to continue its exploration of this matter and to confer with the Health Insurance Council.

28. *Legal Department:*

Mr. Hassard reported on several pending legal cases of importance to the medical profession.

Adjournment:

There being no further business to come before the meeting, it was adjourned at 8 p.m.

SIDNEY J. SHIPMAN, M.D., *Chairman*
ALBERT C. DANIELS, M.D., *Secretary*

In Memoriam

ANDERSON, CLYDE MAXWELL. Died in Los Angeles, November 21, 1950, aged 64, of coronary occlusion. Graduate of the Medico-Chirurgical College of Philadelphia, 1915. Licensed in California in 1920. Doctor Anderson was a member of the Los Angeles County Medical Association, a life member of the California Medical Association, and a Fellow of the American Medical Association.

✣

BANKS, ALFRED E. Died in San Diego, January 16, 1951, aged 70. Graduate of the College of Physicians and Surgeons of San Francisco, 1904. Licensed in California in 1904. Doctor Banks was a member of the San Diego County Medical Society, and a retired member of the California Medical Association.

✣

BEATTY, JAMES D. Died in Los Angeles, January 3, 1951, aged 71. Graduate of Washington University School of Medicine, St. Louis, 1901. Licensed in California in 1909. Doctor Beatty was a retired member of the Los Angeles County Medical Association, the California Medical Association, and an Associate Fellow of the American Medical Association.

✣

BRAMHALL, ROBERT N. Died in Fair Oaks, December 16, 1950, aged 72. Graduate of Northwestern University Medical School, Chicago, 1902. Licensed in California in 1902. Doctor Bramhall was a retired member of the Sacramento Society for Medical Improvement, the California Medical Association, and a Fellow of the American Medical Association.

✣

BURLEW, JESSE M. Died in Glendale, December 8, 1950, aged 76. Graduate of Rush Medical College, Chicago, 1903. Licensed in California in 1904. Doctor Burlew was a retired member of the Orange County Medical Association, the California Medical Association, and an Associate Fellow of the American Medical Association.

✣

CLARK, CARL W. Died in San Francisco, February 10, 1951, aged 63, of cerebral thrombosis. Graduate of Rush Medical College, Chicago, 1915. Licensed in California in 1923. Doctor Clark was a member of the Marin County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

CUNNINGHAM, TERENCE THOMAS. Died in Lynwood, December 12, 1950, aged 60, of coronary occlusion. Graduate of Rush Medical College, Chicago, 1925. Licensed in California in 1927. Doctor Cunningham was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✣

FISHER, WARD L. Died in Pomona, January 29, 1951, aged 63, of coronary occlusion. Graduate of the University of Southern California School of Medicine, Los Angeles, 1914. Licensed in California in 1914. Doctor Fisher was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✣

HARDING, CARL W. Died in Los Angeles, December 27, 1950, aged 47. Graduate of the University of Kansas School of Medicine, Lawrence-Kansas City, 1937. Licensed in California in 1946. Doctor Harding was a member of the Los Angeles County Medical Association, the California Medical Association, and the American Medical Association.

✣

HASTINGS, SEMAN W. Died in Monterey, January 19, 1951, aged 71, after an extended illness. Graduate of the University of Southern California School of Medicine, Los Angeles, 1908. Licensed in California in 1908. Doctor Hastings was a member of the Monterey County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

✣

JACOBUS, LAWRENCE RUSSELL. Died in Oakland, December 31, 1950, aged 52, of acute myocardial infarction. Graduate of the University of California Medical School, Berkeley-San Francisco, 1926. Licensed in California in 1926. Doctor Jacobus was a member of the Alameda-Contra Costa Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✣

KREVITT, JULIUS M. Died in Bakersfield, November 22, 1950, aged 43, of coronary thrombosis. Graduate of the University of Illinois College of Medicine, Chicago, 1934. Licensed in California in 1936. Doctor Krevitt was a member of the Kern County Medical Society, the California Medical Association, and the American Medical Association.

✣

KUDER, WILLIAM S. Died in Oakland, January 29, 1951, aged 69. Graduate of the University of Pennsylvania School of Medicine, Philadelphia, 1904. Licensed in California in 1910. Doctor Kuder was a member of the Alameda-Contra Costa Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✣

LAUGHON, WILLIAM I. Died in Torrance, December 25, 1950, aged 62, of adrenal insufficiency. Graduate of the Medical College of Virginia, Richmond, 1917. Licensed in California in 1930. Doctor Laughon was a member of the Los Angeles County Medical Association, the California Medical Association, and the American Medical Association.

✣

MCDONNELL, CLARENCE H. Died in Sacramento, October 22, 1950, aged 71, of coronary sclerosis and mitral stenosis. Graduate of Barnes Medical College, St. Louis, 1909. Licensed in California in 1909. Doctor McDonnell was a retired

member of the Sacramento Society for Medical Improvement, the California Medical Association, and a Fellow of the American Medical Association.

✤

McGrath, Leon W. Died in Mission Beach, December 12, 1950, aged 60, of carcinoma. Graduate of the Medical College of the State of South Carolina, Charleston, 1916. Licensed in California in 1939. Doctor McGrath was a member of the San Diego County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

✤

Moffitt, Herbert C. Died in San Francisco, February 5, 1951, aged 83. Graduate of Harvard Medical School, Boston, 1894. Licensed in California in 1897. Doctor Moffitt was a member of the San Francisco Medical Association, a retired member of the California Medical Association, and a Fellow of the American Medical Association.

✤

Oldenbourg, Louise A. Died in Oakland, January 30, 1951, of coronary thrombosis. Graduate of the University of California Medical School, Berkeley-San Francisco, 1897. Licensed in California in 1897. Doctor Oldenbourg was a member of the Alameda-Contra Costa Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✤

Reud, William R. Died in Oakland, January 28, 1951, aged 83. Graduate of the College of Physicians and Surgeons of San Francisco, 1908. Licensed in California in 1909. Doctor Reud was a member of the Alameda-Contra Costa Medical Association, a life member of the California Medical Association, and a Fellow of the American Medical Association.

✤

Rosencrantz, Esther. Died in San Francisco, December 18, 1950, aged 74. Graduate of Johns Hopkins University School of Medicine, Baltimore, 1904. Licensed in California in 1904. Doctor Rosencrantz was a member of the San Francisco Medical Society, the California Medical Association, and an Associate Fellow of the American Medical Association.

✤

Smith, Benjamin H. Died in Los Angeles, December 13, 1950, aged 82. Graduate of Missouri Medical College, St. Louis, 1889. Licensed in California in 1923. Doctor Smith was a retired member of the Los Angeles County Medical Association, and the California Medical Association.

✤

Smith, Kirby B. Died in Oakland, January 12, 1951, aged 82, of myocarditis from arteriosclerosis. Graduate of Cooper Medical College, San Francisco, 1896. Licensed in California in 1896. Doctor Smith was a member of the Alameda-Contra Costa Medical Association, a life member of the California Medical Association, and a Fellow of the American Medical Association.

✤

Weinberger, Joseph. Died in San Francisco, December 31, 1950, aged 62, of a coronary. Graduate of the University of Colorado School of Medicine, Denver, 1911. Licensed in California in 1921. Doctor Weinberger was a member of the San Diego County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Questions and Answers about C. P. S.

Question: Does C.P.S. exclude plastic surgery?

Answer: No, plastic surgery is not excluded from C.P.S. contracts, except when it is done for cosmetic purposes. C.P.S. provides coverage for active illnesses and injuries—not for beautification procedures.

Question: Does C.P.S. still have waiting periods?

Answer: Waiting periods have been removed for those enrolled in groups, except for the normal waiting period for maternity benefits; the individual family plan also has waiting periods for several specified conditions.

Question: Do age limits still apply in C.P.S. contracts?

Answer: In the individual family plan the age limit of 60 years *at time of joining* still applies, although membership may be continued after age 60 is reached. In group contracts all age limits have been removed, providing the persons enroll when first eligible. If a person who is 60 or more does not enroll in a C.P.S. group when first eligible, he is not permitted to do so at a later date.

Question: Does a wife, as the employee member of a two-visit-deductible contract, who has not added her husband to the hospital portion of the coverage, obtain any hospital benefits in an obstetrical case?

Answer: No, C.P.S. hospital benefits in maternity cases are paid only when there is at least a two-party contract which has been in effect for the period of ten months or more (nine months under new-type contracts). However, the terms of the medical contract do apply for the physician's professional services in connection with the maternity up to the limits stated in the contract.

Question: If a physician-member, or one of his staff, desires to join C.P.S. as a beneficiary, is he obliged to accept membership under the individual family plan?

Answer: No. C.P.S. has established a special "professional group" in which all physician-members may enroll for prepaid health benefits. The privilege of enrolling in this group also is extended to regular employees on the physician's staff (nurses, technicians, secretaries, receptionists, etc.) and to the family dependents of the physician and his staff employees. Dues for membership in this group are handled on a "direct pay" basis and are payable quarterly, semi-annually or annually. The basic coverage provided for all is the surgical contract and the 50-day hospital contract. In addition, physician-members and employees may, if desired, have either the two-visit-deductible medical contract or medical-services-while-hospitalized; dependents, if desired, may have medical-services-while-hospitalized; all may add "catastrophic coverage," if desired.

Question: What should we tell our patients who inquire as to the availability of individual memberships?

Answer: It is requested that physicians refer these patients to the headquarters offices of C.P.S. in either Los Angeles or San Francisco, or to any C.P.S. district office. However, upon request from a physician-member, C.P.S. will furnish him with a supply of descriptive literature and application forms for the individual family plan, which may be presented to interested patients.

Question: Why does C.P.S., on group contracts, sometimes reject applicants and/or place limitations on specified ailments for a certain member?

Answer: In its early stages of development, C.P.S. had to learn many things about prepaid health coverage by the trial and error method. One of the lessons learned was: When persons do not join C.P.S. when membership is first available, they usually join later only when it becomes apparent to them that they are in need of an operation or other medical care.

Thus, C.P.S. adopted the following policy: All employees of a group are eligible to join when the group is formed, and all persons who are employed later may join C.P.S. within a reasonable time after commencing employment in the group. Those who forego this opportunity to join C.P.S., and decide to enroll at some later date, are not barred from membership, but are required to complete a health statement. The information contained on the health statement determines their eligibility for membership or limitation of coverage for a certain condition.

As can be seen, this policy was adopted to limit costly abuses of membership which, in the aggregate, would impair C.P.S. finances. Maintenance of the policy contributes to the goal of higher fees to physician-members.

Question: Are peacetime veterans eligible for medical treatment through the Veterans' Home Town Care Program?

Answer: Yes, for service-connected disabilities, if the veteran is receiving compensation from the Veterans Administration for a service-connected disability and was discharged under honorable conditions.

Question: If I treat a veteran who alleges service-connection for a disability, and subsequently my request is denied on the grounds of non-service-connection, may I bill the veteran for these services?

Answer: Yes. Even the first examination, which was necessary to arrive at the diagnosis which was ruled non-service-connected, should be the responsibility of the veteran.

Question: A man has a cold which develops into bronchitis, sinusitis and pneumonia. Three or four months are required for recovery. Three years later he has a recurrent bronchitis, but is not allowed C.P.S. benefits for the recurrence. Why?

Answer: Old C.P.S. contracts specifically state that medical care is limited to three consecutive months for any chronic or recurrent condition, including any and all complications and recurrences. In new contracts, currently being introduced, this stipulation has been revised as follows: Medical benefits are provided for three consecutive months for all non-surgical professional services, except for a number of listed ailments for which one year's care is provided.

Executive Secretaries Impressed by C. P. S. Efficiency

Beneficial results achieved by the Conference of Executive Secretaries, recently conducted by California Physicians' Service at its San Francisco offices, are impressively revealed in reports written by various executive secretaries who attended the two-day meeting.

Purpose of the conference was to promote closer working relations between C.P.S. and county medical societies and to bring a fuller understanding of mutual problems and programs.

Writing in the bulletin of the Fresno County Medical Society, Glenn W. Gillette, executive secretary of the Fresno society, said: "California Physicians' Service is a well-organized, efficient and going concern."

Robert L. Wood, Jr., executive secretary of the San Mateo County Medical Society, in a letter to W. M. Bowman, C.P.S. executive director, said: "Your physical plant is a marvel to behold . . . and surely pays off in speed, accuracy and efficiency."

K. C. Young, executive secretary of the San Diego County Medical Society, wrote in his society's bulletin: "I was particularly impressed with the earnest manner in which C.P.S. attempts to please its 10,700 physician members. No complaint is unheeded, a sincere effort is made to satisfy everyone."

In addition to executive secretaries, the conference also was attended by representatives of the California Medical Association and the Public Health League.

Following a complete examination of C.P.S. offices, highlighted by explanations of departmental functions, the visitors engaged in roundtable discussions conducted by Mr. Bowman and C.P.S. department supervisors. Topics included physician relations, new contracts and conversion of old contracts, statistical studies, special review committees, the fee schedule, the income clause, sales procedures, veterans' program and administration.

Continuing his report, Gillette pointed out: "Each department within C.P.S. works under a budget and all general accounts are audited twice annually. Administrative expenses amount to a modest 12 per cent, highly favorable particularly in that the figure includes sales. . . . The nurse instruction courses now being held throughout the state are improving doctor-patient relationships. . . . The review committees (one in each county medical society) are funneling worthwhile suggestions to the medical department.

"C.P.S. has made, and is making, greater strides in the field of voluntary health insurance than the average busy physician realizes. To make constructive suggestions is the right of every member physician [and] the success of C.P.S. depends on the amount and direction of the individual physician's participation."

Further comments by Mr. Wood included: "I have gained a new respect for the whole program and was able to report most enthusiastically to my board of directors. . . . Your efforts to put all contracts on a paying basis are commendable. . . . It [C.P.S.] should never be construed as a source of wealth for the profession. However, every effort should be continued to pay full fee schedules as soon as possible."

Mr. Young was indelibly impressed by the actuarial work done in C.P.S. "C.P.S. leaves little to chance, everything is carefully calculated to five decimal points," he said. "From I.B.M. machines come every conceivable type of statistical information. . . . The administration knows at all times exactly which of many contracts is earning money and which is losing . . . and how much each medical procedure is costing. . . . Such information is of vital importance to safe financial operations because an unusual, protracted utilization of any medical procedure could upset the whole plan if not anticipated."

NEWS and NOTES

NATIONAL • STATE • COUNTY

LOS ANGELES

Dr. Donald W. Blanche last month was installed as president of the Los Angeles chapter of the Western Orthopedic Association. Other officers elected at the same time are: Dr. John Manning, president-elect; Dr. Charles Gilfillan, vice-president; and Dr. Walter Scott, secretary-treasurer.

SACRAMENTO

More than 200 physicians from 17 counties in Northern California attended the first annual **regional medical and surgical convention** which was held February 8 and 9 under the sponsorship of the Sacramento Society for Medical Improvement. The program was arranged by the Committee on Postgraduate Activities of the California Medical Association, and the faculty for the two-day session was drawn from Stanford University School of Medicine.

The meeting was one of a series arranged by the C.M.A. Postgraduate Activities Committee in cooperation with county medical associations in various parts of the state.

* * *

Dr. John Rovane recently was elected president of the Sacramento chapter of the American Academy of General Practice, succeeding Dr. John Long. Dr. Morris Jones was elected vice-president.

SAN DIEGO

Dr. Sam J. McClendon, San Diego, recently was appointed by Governor Earl Warren to serve a second four-year term on the State Board of Public Health.

GENERAL

Dr. Wilbur Bailey of Los Angeles and **Dr. Clayton Mote,** San Francisco, have been reappointed to the State Board of Medical Examiners for four-year terms by Governor Earl Warren. Both physicians have served on the board since 1947, and Dr. Bailey recently was elected president of it.

* * *

The fourth annual **Postgraduate Course in Diseases of the Chest,** sponsored by the American College of Chest Physicians, Pennsylvania chapter, and the Laennec Society of Philadelphia, will be presented at the Hotel Warwick, Philadelphia, March 26 to 30, 1951. The course is open to all physicians but the number of registrants will be limited. The tuition fee is $50.00. Applications should be sent to the American College of Chest Physicians, 500 North Dearborn Street, Chicago 10, Illinois.

* * *

Dr. Elmer L. Henderson, president of the American Medical Association, last month was unanimously elected president of the new **American Medical Education Foundation** which is raising funds within the medical profession for the unrestricted use of the nation's hard-pressed medical schools.

The Foundation was founded at the December 1950 meeting of the American Medical Association in Cleveland when the Board of Trustees announced an appropriation of one-half million dollars as the nucleus of a fund to be raised by the medical profession to assist medical schools. Many further contributions have been received so far, including one for $100,000 from the California Medical Association. "California is the first state medical association to make such a contribution, but it is expected that other state societies will follow," the Foundation said.

Plans have been initiated to form Foundation committees within the 53 component state and territorial medical societies as well as within each county and district medical society. These committees will canvass the physicians in their own areas for funds. The aim of the Foundation is to raise within the next few months a fund sufficiently large so that grants can be disbursed to medical schools this year with as little delay as possible.

It was pointed out that a contributing physician may, if he wishes, earmark his contribution for a specific medical school. As the A.M.A. has agreed to underwrite all expenses in connection with the Foundation, "every dollar contributed will go to the medical schools," it was announced.

* * *

The 1951 meeting of the **American Goiter Association** will be held in the Deschler-Wallick Hotel, Columbus, Ohio, May 24 to 26.

* * *

The date for the third **Western Institute on Epilepsy,** which will be held in Salt Lake City, has been changed from the weekend of June 15 to 17 to the weekend of June 22 to 24, according to an announcement by the Institute.

* * *

The fifth of a series of seven section meetings of the **American College of Surgeons** will be held in Portland, Oregon, March 26 and 27, with headquarters at Hotel Multnomah. The Portland meeting will be followed by meetings in Denver, April 6-7, and in Detroit, May 10-11.

* * *

The program for the **California chapter of the American College of Chest Physicians,** which is to hold its annual meeting in Los Angeles, Saturday, May 12, the day before the opening of the Annual Session of the California Medical Association, is as follows:

AMBASSADOR HOTEL, GOLD ROOM

Morning Session

Moderator, J. J. SINGER, M.D.

9:00—Cortisone and ACTH in Tuberculosis—David Salkin, M.D., Sol Netzer, M.D., and Emil Bogen, M.D.

9:20—BCG Vaccination in Pulmonary Sarcoidosis—Marvin S. Harris, M.D.

9:40—The Clinical Application of the Warring Test for Pulmonary Ventilatory Function — Harold Guyon Trimble, M.D., and James R. Wood, M.D.

10:00—Radiological Findings in Early Carcinoma of the Lung—Eugene Freedman, M.D., and James H. Billings, M.D.

10:20—Treatment of Abscesses Associated with Spinal Tuberculosis—John H. Aldes, M.D.

POSTGRADUATE EDUCATION NOTICES

For more complete information as to fees and time of sessions address the institutions as listed.

STANFORD UNIVERSITY, SCHOOL OF MEDICINE, San Francisco 15

Clinical Ophthalmology—March 26 to March 30. Registration limited to 30 physicians limiting their practice to the treatment of diseases of the eye or eye, ear, nose and throat.

Address: Office of the Dean, Stanford University School of Medicine, 2398 Sacramento Street, San Francisco 15, California.

THE COLLEGE OF MEDICAL EVANGELISTS

Histology and Histopathology of the Eye—February 28 through June 20, 1951.

Varicose Veins—March 1 to April 5, 1951.

10:40—The Management of Esophageal Perforations—David J. Dugan, M.D.

11:00—The Surgical Treatment of Certain Asymptomatic Intrathoracic Lesions Discovered by Roentgen Examination—Lyman A. Brewer, III, M.D.

11:20—The Repair of Experimental Tracheal Defects with Fresh and Preserved Homologous Tracheal Grafts—Orland G. Davies, M.D., J. Malcolm Edmiston, M.D., and H. J. McCorkle, M.D.

11:40—Extracorporeal Oxygenation of Blood — Joseph H. Miller, M.D.

Luncheon

Moderator, Seymour M. Farber, M.D.

Pulmonary Resection—Charles P. Bailey, M.D.

Afternoon Session

Moderator, Lyman Brewer, III, M.D.

2:00—Diagnosis of Congenital Heart Disease — William Paul Thompson, M.D.

2:20—Cardiac Catheterization in Surgical Heart Disease—Sidney S. Sobin, Ph.D., M.D., and Louis E. Martin, M.D.

2:40—Transposition of Pulmonary Veins; Report of Five Cases Diagnosed by Cardiac Catheterization—David C. Levinson, M.D., R. S. Cosby, M.D., Willard Zinn, M.D., Sima P. Dimitroff, M.D., Robert Oblath, M.D., Telfa Reynolds, M.D., and George C. Griffith, M.D.

3:00—Auricular Paroxysmal Tachycardia in Man During Thoracic Surgery—Eliot Corday, M.D., Alfred Goldman, M.D., Robert W. Oblath, M.D., and Myron Prinzmetal, M.D.

3:20—Intracardiac Digital Surgery — Charles P. Bailey, M.D., Robert P. Glover, M.D., Thomas J. E. O'Neill, M.D., and Marvin M. Lacy, M.D.

4:00—Coarctation of the Aorta—Bert Meyer, M.D., and John C. Jones, M.D.

4:20—The Surgical Treatment of Valvular Pulmonic Stenosis—William H. Muller, Jr., M.D.

* * *

The Moore-White Clinic, Los Angeles, recently announced that it is now receiving applications for the 1951 **Fellowship in General Practice.** The fellowship is designed to offer advanced training in medicine and surgery for recent graduates planning to enter general practice, and includes services in internal medicine, general surgery, obstetrics and gynecology, urology, orthopedics, pediatrics, otolaryngology, radiology, and laboratory diagnosis.

The period of appointment is for one year, beginning July 1 of each year. Stipend will be $3,000 and transportation allowance.

Prerequisites of candidacy include graduation from a Class A medical school, one-year internship, and license to practice medicine in California. Those interested in further information or in making application should apply to: Committee on Fellowships, The Moore-White Clinic, 511 South Bonnie Brae Street, Los Angeles 5, California.

* * *

A San Francisco hospital, two medical schools in northern California and one in southern California shared in **awards in support of heart research** which were announced March 1 by the Life Insurance Medical Research Fund. In addition the fund awarded five fellowships for supervised research in California medical training institutions.

Grants in aid of research are as follows:

The Mount Zion Hospital, San Francisco, for research by Dr. Meyer Friedman on the distribution and fate of digitalis glycosides, $8,400.

Stanford University School of Medicine, for research by Dr. Emile Holman on various cardiovascular problems, $7,875.

University of California School of Medicine, for research by Dr. John W. Gofman on fundamental aspects of the association of lipoproteins with arteriosclerosis, $21,000.

University of California School of Medicine, for research by Dr. David M. Greenberg on metabolic changes associated with the development of hypertension and arteriosclerosis, $7,875.

University of California School of Medicine, for research by Dr. John H. Lawrence on total body water in cardiovascular and other diseases, $6,825.

University of California at Los Angeles School of Medicine, for research by Dr. William G. Clark on the biosynthesis and metabolism of adrenalin in relation to hypertension, $12,600.

University of Southern California School of Medicine, for research by Dr. J. Leyden Webb on cellular mechanisms in the action of drugs on the cardiovascular system, $18,900.

Postdoctoral fellowship awards with stipends varying from $3,000 to $4,000, are as follows:

David A. Berman, of Los Angeles, for research under the supervision of Dr. J. Leyden Webb at the University of Southern California School of Medicine.

L. Allen Smith, M.D., of Harrisonville, Missouri, for research under the supervision of Dr. Myron Prinzmetal at the Institute for Medical Research, Cedars of Lebanon Hospital, Los Angeles.

Gordon M. Tomkins, M.D., of Los Angeles, for research under the supervision of Dr. I. L. Chaikoff at the University of California School of Medicine.

Predoctoral fellowships, carrying stipends of $1,800 to $2,000:

Edward Ronwin, M.S., of New York, N. Y., to work under the supervision of Dr. David M. Greenberg at the University of California School of Medicine, Berkeley.

Margret I. Sellers, M.S., of Hayesville, N. C., to work under the supervision of Dr. Gregory J. Jann at the University of California, Los Angeles.

BOOK REVIEWS

THE DIAGNOSIS OF HYSTERIA. By D. W. Abse, M.D., B.Sc., D.P.M., Assistant, Department of Psychiatry, Charing Cross Hospital. The Williams and Wilkins Company, Baltimore, 1950. $2.00.

This small book of 112 pages represents "substantially the contents . . . accepted by the University of Wales as a thesis for the degree of M.D. in 1948." The author feels that the book is a review of the subject of hysteria, which will be of special value to those in Great Britain preparing for the Diploma in Psychological Medicine in the United Kingdom and for those preparing for the M.D. in Psychological Medicine of the Medical Schools in India.

The book in general is a summary of our present knowledge of hysteria with some historical material indicating how these formulations have finally been achieved. The author relies heavily on the orthodox psychoanalytic approach. From the standpoint of the Freudians, however, the formulations appear rather superficial. The claim is made that all hysteria is due to conflict over sex, and great emphasis is laid upon the oedipus complex. A number of case histories are given. It cannot be said that this book adds anything to our knowledge of the subject of hysteria. It gives a brief history of the development of the various ideas that have been held as to the cause of hysteria beginning with Plato and ending up with Freud. Charcot and Janet are given rather more credit than is done by most of the followers of Freud. Jung likewise is quoted a number of times.

The book is clearly and interestingly written and does summarize a good deal of the knowledge that we have about hysteria. Properly the author insists that the diagnosis of hysteria should be on a positive basis and not purely on the basis of negative medical examination.

* * *

PHYSICIANS FEDERAL INCOME TAX GUIDE AND SIMPLIFIED ACCOUNTING RECORD. By Hugh Campbell and James B. Liberman. For the preparation of 1950 returns and 1951 estimates. Doniger and Raughley, Inc., Great Neck, New York, 1950. $2.50.

"Physicians Federal Income Tax Guide and Simplified Accounting Record" is well written, and in non-technical terms that may easily be understood by physicians, for whom the book was intended.

"Non-Taxable Income, Professional Deductions, and Personal Deductions" are clearly set forth in the beginning of the book, together with a 1951 Tax Calendar. One section is devoted to a general discussion on how to use the book; a second section to the actual filling out of the income tax return; a section on the declaration of estimated tax; one on the physician as an employer; and the last on the simplified accounting record.

With careful study of this book, the physician should not have any difficulty in preparing his Federal Income Tax Return, as this book covers every problem that he is likely to encounter.

The "Simplified Accounting Record," however, appears to have been over-simplified, and certainly does not take the place of adequate detailed financial records, as it is a mere summary and is usually a part of any "log" or "daily record."

The use of additional examples and the keying-in of the text material to the completed specimen return which is included in Chapter 25 would have improved the book.

LORD LISTER, HIS LIFE AND DOCTRINE. By Douglas Guthrie. The Williams and Wilkins Company, Baltimore, 1950. $3.50.

A small, 128-page book acknowledges a considerable debt to Lister's biography by his nephew, Sir Rickman Godlee, but is supplemented by additional material from other associates and confreres. Following graduation at University College in London, his activities in successive academic posts are carried through Edinburgh, Glasgow, then back to Edinburgh and finally to London at Kings College Hospital. His persistence in the face of criticism, misinterpretation and active opposition to his work without the development of bitterness, and above all his humility and teachableness are emphasized.

The chapters dealing with the justification of his scientific work up to the final ones covering his relationship to Pasteur and Koch include his American trips. One wishes that the details of his visit to San Francisco were given.

Altogether this little volume is most readable and particularly suitable for the overburdened medical student because of its compactness. Its inclusion of the essentials of Lister's scientific efforts and of his high personal qualities cannot fail to stimulate and afford a pattern to all.

* * *

NON-GONOCOCCAL URETHRITIS — Including the Genital Manifestations of Local and Systemic Diseases and Infestations of the Urinary Tract with Protozoa, Metazoa and Fungi. By A. H. Harkness, M.R.C.S., L.R.C.P., Joint Director of the Endell Street Clinic, St. Peter's and St. Paul's Hospital (Institute of Urology); Vice-President (Past President) of the British Society for the Study of Venereal Disease. 167 Illustrations, 73 in Full Color. The Williams and Wilkins Company, Baltimore, 1950. $10.00.

Harkness' book is an encyclopedia of the subject of urethritis. The entire field of non-gonococcal infections of the urethra, a subject about which little is generally known, is covered in a comprehensive, scholarly manner.

The problem of treating these cases has recently become more prominent. The incidence of gonorrhea has decreased greatly since the advent of penicillin, with an apparent increase in non-gonococcal urethritis, which makes this book timely. This change is partly due to the increased number of cases of non-gonococcal discharge, revealed after specific therapy for gonorrhea, that previously have been resolved unnoticed during the long irrigation treatment.

Non-gonococcal urethritis has been a baffling and often mistreated disease in our armed forces. This volume will be welcomed by our medical officers, as heretofore this type of urethritis was so long drawn out and so unsatisfactory to treat and caused so much worry that occasionally even the psychiatrist was consulted.

The book is well written, and the subject matter is dealt with thoroughly. The non-gonococcal agents causing urethritis—food, water, protozoa, fungi, diabetes, pellagra and the "L" organism, are baffling in their number and variety. A number of chapters covering such diseases as diphtheritic urethritis and Reiter's disease are all-inclusive monographs. The etiology, bacteriology, diagnosis and treatment are discussed completely, and all chapters are followed by a full bibliography.

This single volume is of a size easy to handle, printed with clear type on glossy paper. There are 167 illustrations, 73 in full color, most of which are good and clearly depict their

subject. The book is of value to the urologist as well as to the general practitioner and would well repay considerable study.

While non-gonorrheal urethritis is a rare disease and is frequently mistakenly diagnosed and difficult to treat, it is a condition that responds readily to correct therapy. Harkness' work will make a valuable and satisfying addition to the library of anyone who is occasionally called on to diagnose urethritis of any origin.

* * *

THE PHYSICIAN EXAMINES THE BIBLE. By C. Raimer Smith, B.S., M.D., D.N.B., Philosophical Library, 15 East 40th Street, New York, N. Y., 1950. $4.25.

Even though this book is not written for the exclusive use of physicians, it is written by one and can be accepted as having a direct application to the broad field of medicine.

It is obvious that the author has a sincere objective in producing this thesis. In the summary he expresses it as follows: "Man stands at the gate of a new age. He hesitates. He questions. Shall he take the Bible with him across the portal as a priceless treasure, or shall he cast it aside as some useless rubbish?"

Further, it is obvious that the material which is presented and the conclusions which are made are the results of the study of a lifetime. Along with many doctors of medicine and men of science he has compared "religion" with "science." Obviously he has had his doubts, but differing from many he was not willing to "cast way" the one in favor of the other as do so many religionists and scientists alike, because of prejudice and ignorance. He has not weighed all the evidence; nevertheless, he has done well and has reached a satisfactory conclusion for himself. This conclusion, the evidence for which is well stated, is that the Book of Books is a "pearl of great price," the concepts of which are not only advisable but also essential to the successful continuance of civilization, if not the existence of the human race.

The first portion of the book touches upon many of the biblical references to medical topics, the relative accuracy of which are supported by comparisons with current scientific knowledge. Nevertheless, the author had the good sense to recognize the Bible as a book the purpose of which is primarily to emphasize essential moral values, rather than to consider it as a treatise on things scientific.

The latter portion of the book covers the true purpose for its publication; namely, to support the concept that the Creator of natural phenomena and the Creator of the ethical and spiritual codes by which man must live if he is to live successfully, is the same God.

The reason why scientists and religionists so frequently disagree is because of prejudices which exist between them. The author emphasizes the fact that such disagreement has long existed, particularly during the Era of Christianity, but that there has never been any real reason except ignorance or the stubborn dogma of certain religious leaders or misinterpretation by the scientist himself.

Even though the writer disagrees with the author of the book on some points, believing he has not adequately correlated scientific evidence with statements made in the Bible in developing some of the opinions which he holds, nevertheless the writer agrees with the author in his opinion that, when all evidence is weighed there exists no difference between biblical concepts and well-substantiated scientific facts which cannot be explained by the inability of human scribes adequately to express themselves on subjects with which they may have been quite unfamiliar.

Regardless of one's current concepts of the Bible and of God and of His relationship to this world, one can read this book with interest and, if the author has accomplished his objective, with profit.

INTER-ALLIED CONFERENCES ON WAR MEDICINE, 1942-1945, Convened by the Royal Society of Medicine; Honorary Editor: Major-General Sir Henry Letheby Tidy, K.B.E., M.D., President of the Inter-Allied Conferences, Lately Consulting Physician to the British Army, Assistant Editor: J. M. Browne Kutschbach, M.B., B.Ch., D.P.H.; Staples Press Limited, New York, 1950. $5.00.

This volume will bring a certain amount of nostalgia to those of us who served in the European Theater of Operations between 1942 and 1945. It records 120 of the 220 communications which were delivered at the meetings held at the Royal Society of Medicine in London by the medical services of the Allies stationed in the United Kingdom. The programs which were offered were, in themselves, of considerable interest. The meetings, in addition, will be remembered for the associations which they fostered between American doctors and doctors of other nations.

The book consists of on-the-spot medical war reporting. It is divided into several principal sections. These include general accounts of campaigns, personal experiences of officers in special episodes, the particular experiences connected with D-Day and with German concentration camps, and a variety of special medical subjects. Among these last are malaria, psychological aspects of warfare, the position of advanced surgical teams, infective hepatitis and problems of medical evacuation.

There is perhaps no volume which has assembled as concisely and as well such miscellaneous data on the experience of World War II from the medical viewpoint.

* * *

PSYCHOSOMATIC MEDICINE: ITS PRINCIPLES AND APPLICATIONS. By Franz Alexander, M.D., Director, Chicago Institute for Psychoanalysis, Clinical Professor of Psychiatry, University of Illinois. W. W. Norton & Company, Inc., New York. 300 pp. 1950.

The psychosomatic approach in medicine has become increasingly popular in recent years. Explanations for so-called psychosomatic disorders are often given, however, in such general terms as anxiety, tension, and frustration. But these do little to explain the physiological and organic changes considered to be the result of chronic psychological conflict. The author of this volume draws on psychoanalytic concepts to elucidate the interrelations between psyche and soma. He obviously has had considerable personal experience in this field, and his contributions to the medical literature are many.

In the first section, the role of modern psychiatry in the development of medicine is elaborated. The descriptive psychiatry of Kahlbaum and Kraepelin and the neuroanatomy and neuropathology of Cajal, Golgi, and Alzheimer and Nissel do little to explain the symptomatology of the so-called "functional" psychoses such as schizophrenia, manic-depressive psychosis and the psychoneuroses. The author considers Sigmund Freud to be the first to establish fundamental dynamic principles of psychological causality, and throughout the volume there is little doubt of the author's psychoanalytic bias. There is considerable emphasis on the differentiation between conversion hysteria and vegetative neurosis. A vegetative neurosis (functional disorders of stomach, bowel, and cardiovascular systems) is defined as the physiological response of vegetative organs to constant or periodically returning emotional states, while a conversion symptom (hysteria) is a symbolic expression of an emotionally charged psychological content. It is repeatedly emphasized that the etiology of psychosomatic disorders, as in other medical syndromes, is multicausal and not either organic or psychological. The author's theory of specificity is utilized to explain how certain organs or organic symptoms are utilized in the explanation of symptomatology in that he considers there are specific psychodynamic configurations characteristic of various vegetative disturbances. This is in

contrast to the concept that there is no specific correlation between the nature of emotional stress and its physical sequelae. The emphasis on the concept of specificity is not on personality type, but rather on definite emotional constellations.

The second section is concerned with the description of emotional factors in various syndromes such as gastrointestinal disturbances, respiratory, cardiovascular, skin, metabolic, endocrine, joint and skeletal muscle, and sexual disturbances. Particular stress is placed on descriptions of the emotional patterns of patients suffering from peptic ulcer, ulcerative colitis, bronchial asthma, essential hypertension, thyrotoxicosis, chronic fatigue states, and rheumatoid arthritis. The specific dynamic patterns outlined are perhaps "too pat," but nevertheless they represent a sincere attempt at formulating broad concepts concerning these disorders. The author is to be congratulated on his frankness in reporting that the number of patients who have received psychoanalytic therapy for most of these disorders is too small to permit statistical evaluation of the results of such treatment.

The chapter on therapy is short, but case reports throughout the volume exemplify methods used by the author and some of the good and poor results with psychotherapy. "The psychosomatic approach is more than what has been called bedside manner or medical art. . . . It is based on specific knowledge of the emotional factors operating in every case and of those physiological mechanisms by which emotional factors influence the disease process." It is a persistent and common error among both psychiatrists and internists that if emotional etiology in a case has been established somatic medical management becomes unnecessary and the patient can be turned over completely to a psychiatrist. "Progress in modern medicine consists specifically in the cooperation of the psychiatric and non-psychiatric specialists, both in diagnosis and in treatment."

This is a thorough exposition of the psychosomatic approach in medicine by a psychiatrist who himself has done much original work in the field, and can be very well recommended to every physician.

* * *

HEALTH INSTRUCTION YEARBOOK — 1950. Compiled by Oliver E. Byrd, Ed.D., M.D., F.A.P.H.A., Professor of Health Education, and Director, Department of Hygiene, School of Education, Stanford University. Foreword by Jesse Feiring Williams, M.D., Sc.D., Professor Emeritus, Teachers College, Columbia University, 270 pages. Stanford University Press, Stanford, California, 1950. $3.50.

The eighth Yearbook compiled by Doctor Byrd again serves as a unique digest of highlights in the whole field of health. It is virtually indispensable for instructors in health at secondary schools and colleges as a resource of current authoritative information. If a physician is requested to suggest a source for such instruction, he may recommend this book without hesitation. Indeed, it is very useful for his own reading, in tune with the quickened interest of the individual physician and of organized medicine in the broad panorama of health extending beyond one's own specialized interests.

The author has gleaned 255 articles from the 1,628 he has reviewed. The *Journal of the American Medical Association* leads all others and he comments "this *Journal* must be considered the primary source of health education materials in this country." The material is presented under 21 chapter headings. Each chapter begins, like *California Medicine*, with an italicized summary of its contents. Then follows a succinct review of each selected article. At the end is a bibliography giving the specific reference in the literature to the article. The book represents prodigious amount of work for Doctor Byrd, but is well worth his time and effort.

THE MODERN TREATMENT OF ASTHMA — With Special Reference to Gold Therapy. By L. Banzsky, M.D., L.M.S.S.A. (Lond.). The Williams and Wilkins Company, Baltimore, 1950. $2.50.

The main objective of the author is to present data on gold therapy in the treatment of asthma. Although presentation of the methods used and the precautions necessary in this form of treatment are given in great detail, the reviewer is not convinced of the merits of this therapy. It must be regarded as another form of non-specific treatment of asthma, which in view of the hazards of overdosage does not appear justified except in those cases of chronic asthmas which have not responded to other measures.

Much of the book is a review of old theories and some of the more recent therapeutic measures including the use of antihistaminics and histamine desensitization—the usefulness of which can be better evaluated from reading some of the more recent literature and more comprehensive texts on allergy.

* * *

PYE'S SURGICAL HANDICRAFT—A Manual of Surgical Manipulations, Minor Surgery, and Other Matters Connected With the Work of Surgical Dressers, House Surgeons and Practitioners. By Hamilton Bailey, F.R.C.S. Eng., Surgeon, and Surgeon-in-Charge of the Genito-urinary Department, Royal Northern Hospital, London; 830 Illustrations; The Williams and Wilkins Company, Baltimore, 1950. $6.00.

This practical handbook has been the companion of English house surgeons for generations. Hamilton Bailey has been the editor since 1938, although many contributors have aided him in its preparation. Emergency procedures, bandaging techniques, minor surgery and numerous practical aids in hospital and dispensary practice are offered. This, the sixteenth edition, coming only three years after the last one, has been enlarged and revised; but there are few major changes. American house officers and practitioners will find this a very useful and handy reference book.

* * *

STUDIES IN LOBOTOMY. By Milton Greenblatt, M.D., Robert Arnot, M.D., Harry C. Solomon, M.D., Editors. Grune and Stratton, Inc., New York, 1950. $10.00.

This book will be of particular interest to psychiatrists, neurologists and neurosurgeons. It is a very detailed and thorough study of 205 cases of prefrontal lobotomies performed at the Boston Psychopathic Hospital with a one- to four-year follow-up. The majority of cases were long-standing schizophrenics. Operation was performed only when there was no response to any other type of treatment. Postoperative psychological tests reveal little intellectual loss or evidence of brain damage in these patients in spite of gross frontal lobe destruction. The method of preoperative and postoperative psychiatric evaluation is described. Detailed studies of individual traits on each patient following lobotomy are reported. Postoperative changes for the better were reduction of fear, worry, and depression and improvement in behavior; changes for the worse—reduction of insight and initiative; 105 patients were still hospitalized and there were six surgical deaths. Predictive factors regarding surgical results—good if onset of illness rapid (less than one month), fair if less than four years duration, poor over ten years. Prognosis poor with previous brain damage, auditory hallucinations or poor insight. A few cases of unilateral and bimedial lobotomy were discussed.

The literature is reviewed and there is an excellent bibliography. The status of prefrontal lobotomy is still in a stage of uncertainty and anyone interested in this problem will benefit by the experience of the authors.

MEDICAL JURISPRUDENCE

PEART, BARATY & HASSARD OF THE CALIFORNIA BAR

Hospitals — Res Ipsa Loquitur

In *Cavero v. Franklin Hospital, 36 AC 240,* the Supreme Court of California was presented with the following facts:

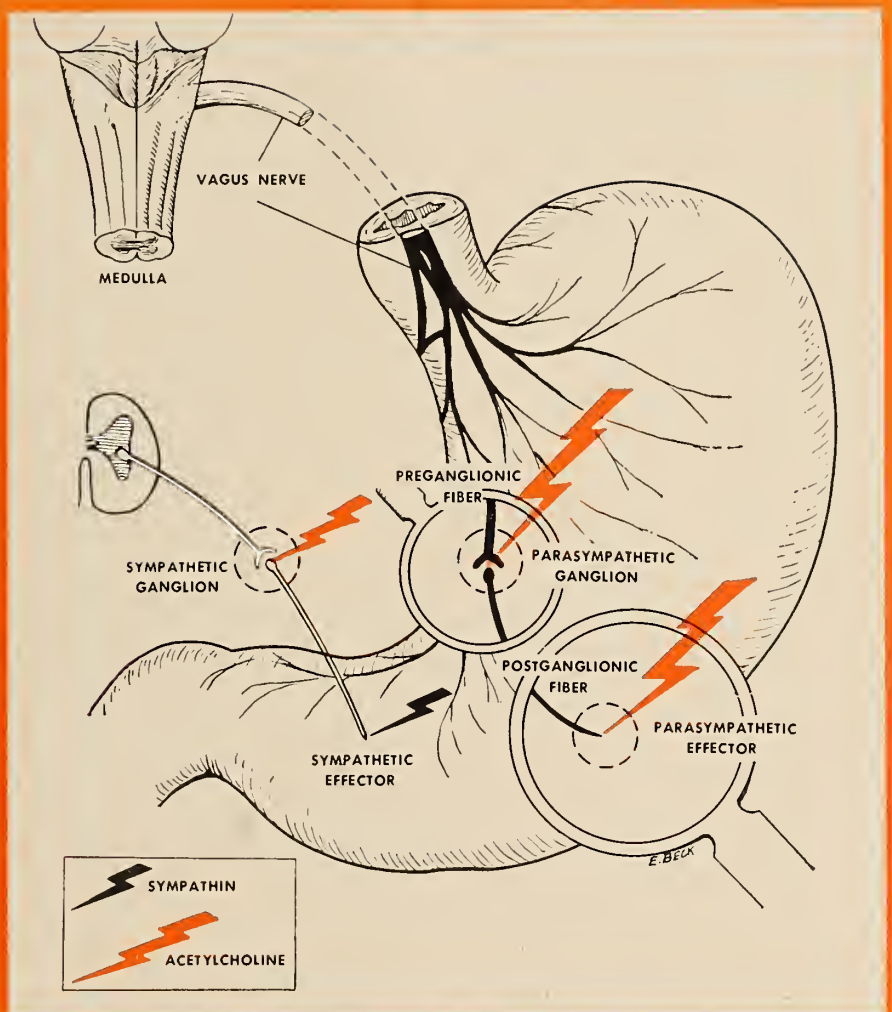
Plaintiff brought a wrongful death action for the death of her three-year-old son. Plaintiff's son had entered the hospital for the purpose of having his tonsils and adenoids removed. The patient's tonsils were moderately enlarged and inflamed but were not in an acute condition. The operation was not an unusual case or an emergency, nor did it involve major surgery. When the child was brought into the operating room, he had already been placed in an intermediate or preliminary anesthetic state. After he was placed on the operating table, further ether was administered, first through a mask by drops and later by tube, and by gas causing the ether to bubble through tubes. While the child was in the depths of anesthesia, the doctor started to remove the tonsils. After the second tonsil was removed and the third increase of anesthesia, the doctor noticed that the blood was extremely dark, which meant, according to the doctor's testimony, that there had not been a proper oxygen supply. The doctor immediately applied artificial respiration with his hands and a resuscitator was called for. The machine was not in the room and the anesthetist left the room and returned with it three or four minutes later; meanwhile artificial respiration was continued. The resuscitator was used but failed to revive the child and the doctors were of the opinion that the child had died by the time the machine was brought into the room and that the death resulted from an overdose of ether by the anesthetist. The coroner's autopsy indicated that the child's death was caused by "inspiration of hemorrhagic material." The nurse-anesthetist was paid directly by the hospital and was under the supervision of the defendant hospital.

The defendant hospital contended that as a matter of law the nurse-anesthetist was employed or agent of the defendant doctors rather than of the hospital and that the hospital cannot be responsible for any negligence of such anesthetist. However, the court held that the evidence amply supported the implied finding that the anesthetist was the hospital's employee in the operation here involved.

The court held that an instruction on the res ipsa loquitur doctrine was proper where the evidence established, in the absence of explanation, that the child's death was due to something which ordinarily does not occur in the absence of negligence; that it was caused by an agency or instrumentality within the control of the defendant; and that it was not due to any voluntary action or contribution of either the plaintiff or the child. Thus, in this case, the plaintiff was allowed to recover.

A rehearing in this case was denied by the Supreme Court of California on November 30, 1950.

For the requisites of the doctrine of res ipsa loquitur you are referred to the February issue of CALIFORNIA MEDICINE.



Banthine* Brand of Methantheline Bromide

BROMIDE

—a true anticholinergic drug, opposes the action of acetylcholine at the ganglions of the parasympathetic and sympathetic systems and at the nerve endings of the parasympathetic system.

Thus, it consistently decreases the hypermotility and in most cases the hyperacidity characteristic of ulcer diathesis.

Experience indicates that patients may be best served by prescribing two tablets of Banthine (100 mg.) every six hours day and night although a few patients may be satisfactorily treated with one tablet (50 mg.) on the same schedule.

*Banthine is the trademark of G. D. Searle & Co., Chicago 80, Illinois

RESEARCH IN THE SERVICE OF MEDICINE SEARLE

Relationship of Stress to Autonomic Lability

Studies in psychosomatics have shown that functional disorders often are a result of the patient's inability to adjust to emotionally stressful situations (stressor factors).

Nervous tension and chronic anxiety, discharged through a labile Autonomic Nervous System, can cause somatic disturbance. [1,2] Such states may involve any one of the organ systems or several at one time. [1,3] The outline below relates gastrointestinal and cardiovascular symptomatology to the exaggerated response of the autonomic nervous system.

	Physiologic Effects of Autonomic Discharge	
	Sympathetic	Parasympathetic
Gastro-intestinal	Hypomotility Intestinal Atony Hyposecretion Reduced salivation	Hypermotility Gastrointestinal spasm Hypersecretion
Cardio-vascular	Rapid heart rate Peripheral vaso-constriction	Slow heart rate Vasodilatation
Functional Manifesta-tions	Palpitation Tachycardia Elevated B. P. Dry mouth—throat	Heartburn Nausea-vomiting Low B. P. Colonic spasm

Data here tabulated is from references 3,4,5,6,7, given below.

Diagnosis of functional disorder is supported by the following indications of autonomic lability:

Variable Blood Pressure
Body Temperature Variations
Changing pulse rate
Deviations in B. M. R.
Exaggerated Cold Pressure Reflex
Glucose Tolerance Alterations

Therapy in these cases is directed toward: 1) relief of symptoms by drug therapy (so making the patient more amenable to psychotherapy); 2) psychotherapeutic guidance in making adjustment to stressful situations and correction of unhealthy attitudes.

Clinicians who have studied these disorders, including those of the menopause, report that good therapeutic results are produced by combined adrenergic (ergotamine) and cholinergic blockade (Bellafoline) with central sedation (phenobarbital) [8,9,10]. A convenient preparation of this nature is available in the form of **Bellergal Tablets**. Functional disorders are long-term therapeutic problems; therefore, drug treatment by the following method is recommended: 5 or 6 tabs. per day for the 1st week; then gradually reduce to the smallest dose effective in maintaining the patient symptom free (average: 3 tabs. daily). Interrupt for 1 week out of every month to assess results.

1. Ebaugh, F.: Postgrad. Med. *4:* 208, 1948. 2. Wilbur, D.: J.A.M.A. *141:* 1199, 1949. 3. Williams, E. and Carmichael, C.: J. Nat'l. Med. Assoc. *42:* 32, 1950. 4. Goodman, L. and Gilman, A.: The Pharmacological Basis of Therapeutics, The Macmillan Co., 1941. 5. Katz, L. et al: Ann. Int. Med. *27:* 261, 1947. 6. Weiss, E. et al: Am. J. Psychiat. *107:* 264, 1950. 7. Alvarez, W.: Chicago Med. Soc. Bulletin, 581, 1950. 8. Rakoff, A.: A Course in Practical Therapeutics, Williams and Wilkins, 1948. 9. Karnosh, L. and Zucker, E.: A Handbook of Psychiatry, C. V. Mosby Co., 1945. 10. Harris, L.: Canad. M.A.J. *58:* 251, 1948.

Sandoz Pharmaceuticals

DIVISION OF SANDOZ CHEMICAL WORKS, INC.
68 CHARLTON STREET, NEW YORK 14, N. Y.

RADIOACTIVE DYE USED TO DETECT BRAIN TUMORS

(Continued from Front Advertising Section, Page 46)

Proved tumors were noted in 110 instances. The radioactive isotope tracer test accurately diagnosed 101 of this number, or 92 per cent.

"This exceeds by far the accuracy of any other single neurosurgical test or procedure," pointed out Dr. Davis, "particularly with regard to localization."

Eighteen patients, at the time of the report, were suspected of having tumors which had not been verified by operation.

Seventy-two of the 200 were believed to be tumor-free as a result of the radiodye test. These diagnoses proved to be 95 per cent accurate.

Most of the errors were due to cystic tumors which are made up for the most part of liquid instead of tissue. The radioactive material is attracted only to actively growing tumor tissue. In many cystic tumors the amount of actual tumor tissue is too small to attract any noticeable quantity of radioactive substance and no suspicious counts are recorded.

In order to determine the comparative accuracy of the radiodye method with other studies used to detect brain tumors, electroencephalography and pneumography studies were made.

Electroencephalography is a graphic recording of electrical currents of the brain. Pneumography is a method of localizing a tumor by injecting air into the ventricles of the brain and studying the results by means of an x-ray picture.

Electroencephalographic studies were performed on 110 of the 200 patients. In this number there were 36 incorrect diagnoses. Radiodye studies performed on the same 36 patients permitted accurate diagnosis.

Pneumographic studies were performed on 121 proved tumor patients. Results of this method of examination suggested no tumor in eight of the patients. On the other hand radiodye testing accurately located a tumor in all but one of them.

"Localization by the radiodye method proved to be much more precise than with electroencephalography or pneumography whenever verification was obtained at surgery or at autopsy," said Dr. Davis, pointing out that pneumography was 63 per cent focally accurate and electroencephalography was only 45 per cent focally accurate.

A typical example illustrating the importance of the development of the radiodye method of examination is shown in the case of a 46-year-old man—a shopkeeper—who complained of severe headaches and dizziness for over a period of one year. In addition, he told of difficulty in walking. Symptoms and examinations during this period were inconclusive and unsatisfactory. With the use of the radiodye method the tumor was located with great accuracy and treatment given the patient.

Modifications of this case were repeated over and over, Dr. Davis said.

Not only does the radiodye indicate a greater degree of accuracy, but, according to the report, it is relatively harmless and simple. On the other hand,

(Continued on Page 54)

TITRALAC

(GLYCINE AND CALCIUM CARBONATE)

ANTACID TABLETS

TABLETS: 40's AND 100's

LITERATURE AND SAMPLES ON REQUEST

IN CONTINUOUS THERAPY OF GASTRIC HYPERACIDITY ESPECIALLY IN THE MANAGEMENT OF PEPTIC ULCER; ONE TABLET PROVIDING THE ACID-NEUTRALIZING POWER OF EIGHT OUNCES OF FRESH MILK

SCHENLEY LABORATORIES, INC. • 350 FIFTH AVE., N. Y. 1

RADIOACTIVE DYE USED TO DETECT BRAIN TUMORS

(Continued from Page 50)

pneumography produces severe headaches and occasional shock and, on the whole, is an exceedingly discomforting procedure as far as the patient is concerned, the surgeons pointed out.

In summary of the importance of this new method and its over-all evaluation, Dr. Davis said:

"Limitations of the test have proved to be few provided due regard is made to accurate, consistent placement of the Geiger tube on the skull and proved suspicious areas are rechecked and compared to symmetric and adjacent areas of the skull.

"It must be remembered," Dr. Davis emphasized, "that this is but one of a number of diagnostic tests used to detect brain tumors. A combination of studies should be made and information correlated. It is true, however, that we are depending more and more on the radiodye method.

"Furthermore, the test is not a simple one but requires the expert interpretation and judgment of a doctor trained in neurology.

"The goal for which we are now working involves a modification of the Geiger-Mueller tube for use during actual operations. Tumor tissue often blends in so well with brain matter that its size and shape

(Continued on Page 64)

COLLECTIONS—with dignity and the utmost efficiency, recognized and recommended to the profession for over twenty years.

Seven Eighty-five Market Street San Francisco EXbrook 2-1670

"Representing Doctors of California by the Hundreds"

PROCREDIT COMPANY

Professional Finance & Credit Service "ASK ANY DOCTOR"

Represented by bonded agents throughout the United States

COSMETIC DERMATITIS?

Clinical tests confirm the use of AR-EX Cosmetics for hyper-sensitive skins. Scented or Unscented. Send for Free Formulary.

Free Diagnostic Aid

Table of cosmetic irritants and allergens — an aid in diagnosing cosmetic sensitivity — sent to physicians on request.

AR-EX COSMETICS, INC., 1036 W. VAN BUREN ST., CHICAGO 7, ILL.

HYLAND
Mumps Immune Serum

IRRADIATED • HUMAN

To prevent mumps and to aid in preventing mumps complications

ADVANTAGES

Hyland's new Irradiated Mumps Immune Serum, prepared from selected hyperimmunized adults, yields a serum pool with an antibody titer higher than that usually found in mumps convalescent serum pools. No preservative added but treated with ultraviolet radiation. Dried for stability, simple to administer.

PROPHYLACTIC USE

Give within first 7 days exposure to confer passive immunity... duration approximately 10 to 14 days. If exposure continues, immunity may be sustained by repeating dosage as needed.

THERAPEUTIC USAGE

In the treatment of mumps, there is some evidence that the serum prevents serious complications if administered early in adequate amounts. Being an homologous serum, repeated injections do not involve added risk.

AVAILABLE

In rubber-stoppered vial sets; one vial containing dried serum representing 20 cc. of original serum, and one vial containing a suitable diluent for restoration. Obtain from your regular source of supply.

Additional information on request.

Hyland Laboratories

BIOLOGICALS

4534 Sunset Boulevard, Los Angeles 27, California • 26 Vark St., Yonkers 1, New York

STEIGMANN AND SCHLESINGER* in the Gastrointestinal Clinic of the Cook County Hospital, Chicago, made a five year study of the effects of available antacids in the treatment of gastroduodenal ulceration.

Various resinous substances were tested including "the new type of 'antacid' "—Resmicon—a synergistic combination of a finely dispersed ion-exchange polyamine resin with a specially processed form of gastric mucin.

Resmicon was given to a series of patients over a period of 2 to 15 months. Most of the patients chosen were those who did not respond well to therapy with other antacids.

EFFECT ENHANCED—The investigators confirmed their previous findings** namely that "the admixture of gastric mucin enhances the effect of the resins."

QUICK RELIEF—"Most patients had good symptomatic relief within the first week (two to seven days) of 'Resmicon' treatment . . .

"They felt better, ate better and gained weight. The majority took the tablets well and there were no complaints regarding constipation or diarrhea."

HEALING ENCOURAGED—"Simultaneously with clinical improvement the patients with gastric ulcer showed significant changes in the size of the craters when x-rays were taken at weekly or bi-monthly intervals.

"Those who were gastroscoped (a total of 19) also showed healing of the ulcer."

"This new substance [Resmicon] appears to combine the good effects of resins (neutralization of the hydrochloric acid in gastric juice without interfering with the acid-base balance) with those of gastric mucin in the treatment of gastroduodenal ulcer."

Resmicon®

ACID ADSORBENT DEMULCENT • 84 TABLETS

*Steigmann, F., and Schlesinger, R. B.: A Resin-Gastric Mucin Mixture in the Medical Management of Peptic Ulcer, American J. Dig. Dis. *17*:361-365 (Nov.) 1950.

**Scientific Exhibit of the A. M. A., Atlantic City Session, 1949.

Whittier LABORATORIES

DIVISION NUTRITION RESEARCH LABORATORIES, INC.
CHICAGO 11, ILLINOIS

THE
MEDICAL PROTECTIVE
COMPANY
FORT WAYNE, INDIANA

Professional Protection
Exclusively
since 1899

LOS ANGELES Office:
D. C. Seeman, Representative,
417 First Trust Bldg., Pasadena
Telephone RYan 1-6981
and SYcamore 3-0676

SAN FRANCISCO Office:
Gordon C. Jones, Representative,
1735 Sweetwood Drive
Telephone Plaza 5-4478

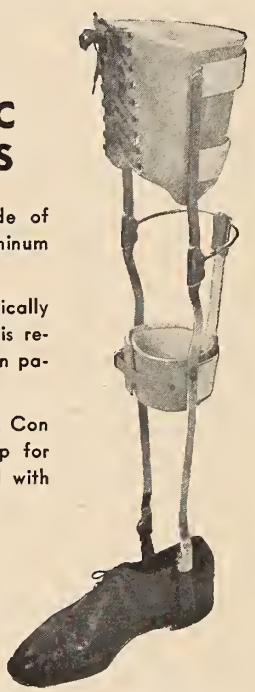
for . . .

ORTHOPEDIC APPLIANCES

This long leg brace is mode of stainless steel and strong aluminum olloy.

The knee joints lock outomotically when leg is extended. Lock is released by edge of chair when patient sits.

Ankle joint is ot oction level. Con hove spring lift or 90° stop for drop foot. Stirrup is covered with leother to motch shoe.



△

Estoblished 1893

"Two Generations of Appliance Makers"

△

M. J. BENJAMIN

501-518 Paramount Theatre Bldg.

Two Elevotor Entrances

323 WEST 6th ST. 536 SO. HILL ST.

Phone MAdison 1593 • LOS ANGELES

NEW TEST GIVES WARNING OF BLEEDING TENDENCY

Hemophilia is not the rare, mysterious and uncommon disease people believe it is, a Milwaukee physician writes in a recent issue of the *Journal of the American Medical Association.*

Hemophiliac patients—so-called bleeders—said Dr. Armand J. Quick, of Marquette University School of Medicine and Milwaukee Children's Hospital, need not be left to the care of specialists but usually can be cared for by the family doctor. A new test—called prothrombin consumption test—is proving valuable to the doctor by warning him that a hemophiliac condition exists in certain patients.

"Although the diagnosis is generally easy when the condition is severe," said Dr. Quick, "difficulty is apt to be encountered when the bleeding tendency is not pronounced and the family history is negative for hemophilia."

"In a surprisingly large number of hemophiliacs," he continued, "no positive family history is obtainable."

He cited Queen Victoria as a notable example of a carrier whose family history appears "entirely negative." It was pointed out that the defect can pass silently through several generations of women. It is also known that a male may have the disease in such a mild state that it may be considered "subclinical," and yet he will transmit the defect to his daughters. The severity of the disease in offspring is unpredictable.

According to Dr. Quick, abnormal bleeding after tooth extraction or a minor operation is sometimes the first sign, and in some cases the only sign, of a bleeding tendency.

"A considerable number of hemophiliacs," he continued, "have the disease in such a mild form that they rarely require medical treatment and even those who have moderately severe hemophilia may be free of hemorrhagic episodes for relatively long periods."

Bleeding into joints usually occurs for the first time after the child begins walking and engages in relatively strenuous games. Such a condition generally denotes "moderately severe" hemophilia, he said.

The application of cold (an ice bag), the use of a pressure bandage, if the site of the injury permits, and complete rest of the joint were named as three essentials for immediate treatment following injury.

Dr. Quick pointed out that contrary to popular belief the most important danger in hemophilia is not loss of blood but the development of various lesions caused by pressure of tumor masses (which consist of collections of blood) and bleeding into the joints.

"Many hemophiliacs are crippled because joints were neglected after hemarthrosis or because contractions occurred after hemorrhage into a muscle," he said.

"Much of this [crippling] problem is in the domain of the orthopedic surgeon, but if the parents of a hemophiliac child are properly educated and have the service of a family physician who handles the emergencies much can be accomplished in saving the hemophiliac from becoming a cripple."

Exhausting cough goes...

Beneficial cough reflex stays...

MERCODOL provides prompt, selective relief that doesn't interfere with the cough reflex needed to keep throat passages and bronchioles clear.

This complete, pleasant-tasting prescription contains a *selective* cough-controlling narcotic[1] that doesn't impair the beneficial cough reflex . . . an effective bronchodilator[2] to relax plugged bronchioles . . . an expectorant[3] to liquefy secretions. Remarkably free from nausea, constipation, retention of sputum, and cardiovascular or nervous stimulation.

MERCODOL®

THE ANTITUSSIVE SYRUP THAT CONTROLS COUGH—*KEEPS* THE COUGH REFLEX

An exempt narcotic

MERCODOL with DECAPRYN®
for the cough with a specific allergic basis.

Merrell
1828
CINCINNATI • U.S.A.

Each 30 cc. contains:

[1]Mercodinone®— (dihydrocodeinone bitartrate)	10.0 mg.
[2]Nethamine®— (methylethylamino-phenylpropanol) Hydrochloride	0.1 Gm.
[3]Sodium Citrate	1.2 Gm.

RADIOACTIVE DYE USED TO DETECT BRAIN TUMORS

(Continued from Page 54)

cannot be seen even with the aid of a microscope. The development of a small surgical instrument capable of picking up radioactive radiations would permit the surgeon, in effect, to hear [the count] the boundaries of the tumor even though he cannot see them. More complete and accurate removal of tumor tissue would then be accomplished."

Buy U.S. Savings Bonds

OUTLOOK OPTIMISTIC FOR PEPTIC ULCER SUFFERERS

Chances are good that a person suffering from peptic ulcer can live as long and as usefully as the average person if he follows a program laid down by a competent physician.

This encouraging note was sounded by Dr. Andrew C. Ivy and T. Arthur Turner in a recent issue of *Today's Health,* published by the American Medical Association.

Dr. Ivy is vice-president of the University of Illinois in charge of the Chicago professional colleges. Mr. Turner is managing editor of a medical abstract service.

(Continued on Page 68)

Anti-Pyrexol

Active ingredients: Oils of spearmint, bay, wintergreen (syn.), salicylic acid, lanolin, zinc oxide, phenol (0.44%) ortho-hydroxyphenylmercuric chloride (.56%)—petrolatum, paraffine. Physicians in increasing numbers are using Anti-Pyrexol in the treatment of denuded and painful skin lesions—for burns, scalds, incised or lacerated wounds, surface irritations and local inflamed conditions of the skin and mucous membrane. An antiseptic ointment that combats toxemia, Anti-Pyrexol reduces pain, promotes healing, minimizes scarring. In 2 oz. tubes, and 1, 5, 10 and 50-lb. tins at your surgical supply house or jobber. Imitated—so ask for **easy spreading** Anti-Pyrexol.

ANTI-PYREXOL BLAND Same as Anti-Pyrexol except that Ortho-Hydroxy phenylmercuric chloride is omitted—suggested in treatment where chances of infection are lacking. Packed as Anti-Pyrexol.

ANTI-PYREXOL BENZOCAINE Represents Anti-Pyrexol plus Benzocaine 3%. Acutely anesthetic. Packed in 2-oz. Tubes and in 1, 5 and 10-lb. tins. *NOT ADVERTISED TO THE LAITY*

KIP CORP., Ltd. LOS ANGELES 21

LIVERMORE SANITARIUM

• The Hydropathic Department devoted to the treatment of general diseases, excluding surgical and acute infectious cases. Special attention given functional and organic nervous diseases. A well equipped clinical laboratory and modern X-ray Department are in use for diagnosis.

• The Cottage Department (for mental patients) has its own facilities for hydropathic and other treatments. It consists of small cottages with homelike surroundings, permitting the segregation of patients in accordance with the type of psychosis. Also bungalows for individual patients, offering the highest class of accommodations with privacy and comfort.

GENERAL FEATURES

1. Climatic advantages not excelled in United States. Beautiful grounds and attractive surrounding country.
2. Indoor and outdoor gymnastics under the charge of an athletic director. An excellent Occupational Department.
3. A resident medical staff. A large and well-trained nursing staff so that each patient is given careful individual attention.

Information and circulars upon request.
Address: O. B. JENSEN, M.D.
Superintendent and Medical Director
LIVERMORE, CALIFORNIA
Telephone 313

CITY OFFICES:

SAN FRANCISCO
450 Sutter Street
GArfield 1-5040

OAKLAND
1624 Franklin Street
GLencourt 1-5988

Advertisers in your OFFICIAL JOURNAL *will appreciate requests for literature*

Inadequate vitamin C in infant feeding often leads not only to scurvy but also to megaloblastic anemia.[1] BREMIL—newest product of Borden research—guards against these grave nutritional complications by providing three times the recommended daily allowance[2] for vitamin C in the reliquefied quart.

Appreciation of the importance of infantile megaloblastic anemia begins with the classic description of the syndrome by Zuelzer and Ogden.[3] May, et al., observe that megaloblastic anemia "has been reported frequently as a complication of scurvy."[1] They also report concerning their own work: "When vitamin C was provided adequately, the diets tested did not lead to megaloblastic anemia."[1]

Careless formula preparation or simply failure to give the required vitamin C when prescribed often explains the inadequacy in vitamin C intake. Physicians will therefore appreciate particularly the fact that BREMIL provides more than ample ascorbic acid. And, of course, BREMIL meets similar requirements for vitamins A, B, and D, riboflavin and niacin.

moreover . . . an adequate provision of vitamin C is not the only attribute that makes BREMIL new and unique

BREMIL is a completely modified milk in which the calcium-phosphorus ratio (1½:1) is adjusted to the pattern of human milk, thus helping to prevent hypertonicity, hyperirritability and other tetanic symptoms in infants.[4,5] BREMIL has the fatty acid and amino acid patterns of human milk . . . the same carbohydrate (lactose) . . . more iron . . . a soft, flocculent curd of small particle size comparable to human milk . . . complete solubility.

BREMIL can be mixed for a single feeding or a 24-hour period. Formula preparation is as rapid as with a liquid product. Moreover, BREMIL does not settle out on standing. Standard dilution is 1 level tablespoonful and 2 fl. oz. water, although BREMIL can be either concentrated or diluted. Each level tablespoonful BREMIL powder supplies 44 calories.

Complete information and a trial supply may be obtained upon request.

BREMIL is available in drugstores in 1 lb. cans.

1. May, C. D., et al.: *Am. J. Dis. Child. 80:191, 1950.*
2. Recommended Daily Dietary Allowances, Rev. 1948, Food and Nutrition Board, National Research Council.
3. Zuelzer, W. W., and Ogden, F. N.: *Am. J. Dis. Child. 71:211, 1946.*
4. Gardner, L. I., Butler, A. M., et al.: *Pediatrics 5:228, 1950.*
5. Nesbit, H. T.: *Texas State J. M. 38:551, 1943.*

flexible, palatable, easy to prepare **Bremil®** *powdered infant food*

Prescription Products Division

The **Borden** Company, *350 Madison Avenue, New York 17*

OUTLOOK OPTIMISTIC FOR PEPTIC ULCER SUFFERERS

(Continued from Page 64)

Cases requiring surgery and deaths caused by advanced process of the disease were found to be in the minority.

A peptic ulcer—and surveys indicate that 1 to 3 per cent of the population over 20 years of age is enduring peptic ulcer in its active state—is a sore on the inner wall of any area of the digestive tract which comes into contact with gastric juice. The cause of this condition is not known.

Indications from laboratory, clinic and social studies, however, are that "ulcer is much commoner in some occupations than others and is apparently related to irregular living habits, prolonged or chronic nervous tension, anxiety and fatigue," the authors reported.

"In animals [experimental], ulcers have been caused by diets deficient in vitamins, by interference with the endocrine glands, by local allergic reactions, by injection of certain drugs, by mechanical injury and other means."

Medical science is concerned not only with the cause of the sickness but with the further problem of why actual healing of the ulcer is delayed.

(Continued on Page 80)

ALUM ROCK SANATORIUM

SAN JOSE, CALIFORNIA

Telephone Clayburn 8-4921

A Non-Profit Sanatorium for the treatment of tuberculosis and other diseases of the chest.

MEDICAL DIRECTOR
Buford H. Wardrip, M.D.

ASSOC. MEDICAL DIRECTOR
C. Gerald Scarborough, M.D.

VISITING MEDICAL STAFF
Cabot Brown, M.D., San Francisco
Gerald L. Crenshaw, M.D., Oakland
J. Lloyd Eaton, M.D., Oakland
Ina Gourley, M.D., Oakland
H. Corwin Hinshaw, M.D., San Francisco
W. Dale Peterson, M.D., Oakland
Glenroy N. Pierce, M.D., San Francisco
Harold Guyon Trimble, M.D., Oakland
James Robert Wood, M.D., Oakland

CONSULTING PATHOLOGIST: E. Gwyn Roberts, M.D., San Francisco

CROCKER FIRST NATIONAL BANK · ESTABLISHED 1870 · CALIFORNIA'S OLDEST NATIONAL BANK

Automobile Loans at Bank Rates

We invite you to compare *Bankway* rates before you finance the purchase of your next car. There are no hidden "extra" charges. You will know the exact loan costs in advance of delivery. Use Crocker *Bankway* Credit to finance your automobile.

CROCKER FIRST NATIONAL BANK

1 Montgomery Street, San Francisco
13th at Franklin Street, Oakland

Member F. D. I. C.

SINCE 1861 · Hanger ARTIFICIAL LIMBS · Nature's Rivals · TRADE MARK REGISTERED

For Over 90 YEARS

. . . Hanger Artificial Legs and Arms have given satisfaction to thousands of wearers. These people, once incapacitated, have been able to return to work and play and to take part in the everyday activities of life.

The first Hanger Limb was manufactured in 1861. Today the Hanger Seal is a symbol of the pride we take in our long tradition of help and hope to amputees. To them, and to all, the Hanger name is a guarantee of Comfort, Correct Fit, and Fine Performance.

HANGER ARTIFICIAL LIMBS

608 Hayes Street
San Francisco 2, California

Advertisers in your OFFICIAL JOURNAL *will appreciate requests for literature*

Raising pain's threshold is Phenaphen with Codeine's business! Its efficacy is directly attributable to the potentiating

action of these five anodyne and sedative components.

(Acetylsalicylic acid U.S.P. 2½ gr., phenacetin 3 gr., phenobarbital U.S.P. ¼ gr., and hyoscyamine sulfate .031 mg., with codeine phosphate ¼ or ½ gr.)

Phenaphen® with Codeine

is a product of **A. H. ROBINS CO., INC. • RICHMOND 20, VA.**

Ethical Pharmaceuticals of Merit since 1878

Robins

Sodium Gentisate: A New Approach to the Treatment of Arthritis

It has been estimated[1] that nearly 7,000,000 people (at least one in every 20 persons) in the United States have some form of "rheumatic" disease. Rheumatism (with arthritis the most important single cause) ranks first in prevalence among diseases, and second in the production of disability and invalidism. It is more common than the total number of cases of tuberculosis, diabetes, cancer and heart disease combined.

The most common of the severe forms of the arthritides is rheumatoid arthritis. Although its etiology still remains uncertain, there are factors upon which there is general agreement.[2] (1) Rheumatoid arthritis has a definite tendency to be familial. (2) Eighty per cent of the cases occur between the ages of twenty and fifty with the peak at thirty-five to forty. (3) Females are more commonly affected than males in a ratio of 3:1. (4) Investigation shows that in the period preceding the onset of symptoms, emotional shocks are very common and this is frequently manifested by a severe depression.[3] (5) Pregnancy causes an amelioration of symptoms in a significantly high proportion.[4] (6) Involvement of the liver, as in infectious hepatitis, causes a definite remission in a significant number of patients.[5]

Since Klinge's[6] original work in 1929, evidence has been accumulating that both rheumatic fever and rheumatoid arthritis are diseases of the interfibrillar substance of the connective tissue.[7] The nature of this material is not well understood, although it is presumably a mucopolysaccharide in combination with a protein. This theory holds that changes in the cellular components are secondary to changes in the interfibrillar material. The composition of two of the mucopolysaccharides found in interfibrillar material is known: (a) chondroitin sulfuric acid, and (b) hyaluronic acid.[8] Changes in chondroitin sulfuric acid have been studied in hyaline cartilage which is affected to a considerable degree in rheumatoid arthritis.[9]

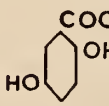
These changes have been on a purely morphological basis[9] and consist chiefly of destruction of hyaline cartilage, presumably due to interference with its blood supply by the overgrowth of pannus and granulation tissue, both beneath the subchondral plate and on the surface of the joint.

On the other hand, changes in the hyaluronic acid of the joint fluid have been shown to be present in active rheumatoid arthritis.[10,11] These changes in active disease consist of depolymerization of the hyaluronic acid and an increase in the total amount of hyaluronic acid present. The excessive presence of hyaluronidase, moreover, has been acknowledged to produce a denaturization of mucin in the synovial fluid, the varying degrees of which are valuable for their diagnostic as well as prognostic indications.[12] Clinicians[13] have concluded that the increase of hyaluronidase activity may be responsible for the breakdown of interfibrillar cement.

A rational approach to the problem, therefore, demands a therapeutic agent that will act to inhibit the spreading effect of hyaluronidase.

Meyer and Ragan[14] treated patients having rheumatoid arthritis and acute rheumatic fever with sodium gentisate, a hyaluronidase inhibitor. Their results were uniform and notably favorable. Within a few days there followed a disappearance of pain, swelling and joint inflammation.

The increase in urinary glucuronic acid observed with salicylates does not occur with gentisates. This phenomenon has been assigned to the rapid oxidation of the gentisates.[15] It is indeed likely, as shown by examination of the structural formulas of these two compounds, that the antirheumatic action of the salicylate in forestalling the spread of hyaluronidase[16] is attributed to its partial oxidation in the body to a gentisate.



SODIUM GENTISATE

The corrective action of sodium gentisate is generally not an immediate one; therefore, as an added therapeutic measure, a salicylate, which provides prompt relief from pain, should be included in the formula.

The product of choice, therefore, should be GENTARTH Tablets, prepared by the Raymer Pharmacal Company of Philadelphia.

Each salol-coated GENTARTH Tablet contains:

Sodium Gentisate	100 mg.
Raysal-Succinate	325 mg.
(representing 43% Salicylic Acid and 3% Iodine in a Calcium-Sodium Phosphate Buffer Salt Combination)	
Succinic Acid	130 mg.

The recommended dosage is two or more tablets three or four times daily (after meals and before bedtime).

GENTARTH Tablets are supplied in bottles of 100, 500 and 1,000 and are available at all pharmacies on prescription.

1. Hench, P. S. et al.: Ninth Rheumatism Review, Ann. Int. Med., 28:66 (1937).
2. Dawson, M. H. & Ragan, C.: Chronic Arthritis, Nelson's Loose Leaf Medicine, New York, Thomas Nelson & Sons, In Press.
3. Thomas, G. W.: Am. J. Psychiat., 93:693 (1936).
4. Hench, P. S.: Proc. Staff Meet. Mayo Clin., 13:161 (1938).
5. Gardner, F., Stewart, A. & MacCallum, F. O.: Brit. M. J. p. 677 (Nov. 1945).
6. Klinge, F. & Grzimek, N.: Virchow's Arch. f. Path. Anat., 284:646 (1932).
7. Meyer, K.: Phys. Rev., 27:335 (1947).
8. Comroe, B. I.: Arthritis and Allied Conditions, Phila., Lea & Febiger, 4th Ed. (1949).
9. Flynn, J. et al.: Am. J. M., 1:675 (1946).
10. Ragan, C.: Ann. Rheum. Dis., 7:35 (1948).
11. Ropes, M. W.: Ann. Rheum. Dis., 7:35 (1948).
12. Ropes, M. W., Robertson, W. V. B., Rossmeisl, E. C., Peabody, R. B. & Bauer, W.: Acta. Med. Scand., Suppl., 196 (1947).
13. Meyer, K. & Ragan, C.: Mod. Concepts of Card. Disp., 17:2 (1948).
14. Meyer, K. & Ragan, C.: Feder. Proc., 7:173 (1948); Science, 108:281 (1948).
15. Quick, A. J.: J. Biol. Chem., 101:475 (1933).
16. Guerra, J.: J. Pharm. Exp. Ther., 87:1943 (1946).

For free clinical supply and literature, write to Raymer Pharmacal Company, N.E. Cor. Jasper & Willard Streets, Philadelphia 34, Pa.

(Advertisement)

Logically Preferred—Clinically Proven!

DOHO RESEARCH PRODUCTS

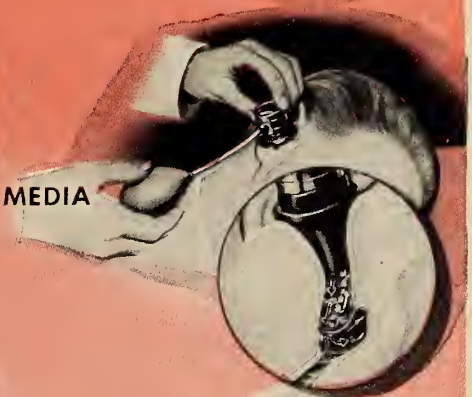
STRICTLY ETHICAL—ADVERTISED ONLY TO THE PROFESSION

Auralgan

for ACUTE OTITIS MEDIA
REMOVAL OF IMPACTED CERUMEN
AS AN ADJUNCT TO SYSTEMIC ANTI-INFECTIVE THERAPY
CONTAGIOUS DISEASE EAR INVOLVEMENTS

FORMULA: Glycerol (DOHO) .....17.90 GRAMS
(Highest obtainable spec. grav.)
Antipyrine ..... 0.81 GRAMS
Benzocaine ..... 0.21 GRAMS

O-TOS-MO-SAN



for CHRONIC SUPPURATIVE OTITIS MEDIA
FURUNCULOSIS AND
AURAL DERMATOMYCOSIS

FORMULA: Urea ..... 2.0 GRAMS
Sulfathiazole ..... 1.6 GRAMS
Glycerol (DOHO) Base..16.4 GRAMS

RHINALGAN

Nasal Decongestant with virtually no circulatory or respiratory effect.

for COMMON COLD · SINUS INFECTIONS · PRE AND POSTOPERATIVE NASAL SHRINKAGE · HAY FEVER ALLERGIC AND HYPERTROPHIC RHINITIS

FORMULA: Desoxyephedrine Saccharinate 0.50% w/v in an isotonic aqueous solution with 0.02% Laurylammonium saccharin. Flavored. pH 6.4.

PLEASANT—EFFICIENT
NON-TOXIC—BACTERICIDAL

Supplied in **THE DOHONY SPRAY-O-MIZER*** (Combination Spray and Dropper)
*TRADE MARK—PAT. PEND.
Also for Office and Hospital use in Pint bottles.

Scientific and Clinical Data sent on request

DOHO CHEMICAL CORP., 100 Varick St., New York 13, N. Y.

Also MALLON DIVISION — Makers of RECTALGAN

KABAT-KAISER INSTITUTE
For Neuromuscular Rehabilitation

1815 Ocean Front
Santa Monica, California

Specializing in the Treatment of the Crippled and Physically Handicapped Patient

Resident and Out-Patient Services

Resident Medical Director:

O. LEONARD HUDDLESTON, M.D., Ph.D.
Diplomate American Board of Physical Medicine

Richard W. Moore, M.D. David Rubin, M.D.
Clark Richardson, M.D. Rene Cailliet, M.D.

Phone: EXbrook 3-2751

A REQUEST for CHANGE OF ADDRESS

...must reach us at least three weeks before the date of issue with which it is to take effect. Duplicate copies cannot be sent to replace those undelivered through failure to send such advance notice. With your new address be sure to send us the old one, enclosing, if possible, your address label from a recent copy.

CALIFORNIA MEDICINE
Room 2009
450 Sutter Street San Francisco 8

NATIONWIDE ORGANIZATION OF MEDICAL STUDENTS UNDER WAY

Steps are under way at medical schools throughout the United States to form student academic societies which will become the components of the newly organized Student American Medical Association.

Delegates from 48 schools, with an enrollment of 15,855 medical students, approved a constitution for the new association at a two-day organizational meeting here recently. Many of the other 31 schools with an enrollment of approximately 9,000 students are expected to form similar groups within 60 days in order to become charter members.

The Student American Medical Association has for its objectives: (1) the advancement of medicine; (2) contribution to the welfare and education of medical students; (3) familiarization of its members with the purposes and ideals of the medical profession, and (4) the preparation of its members to meet the social, moral and ethical obligations of the profession.

Warren R. Mullen of Jackson, Mich., a student at the University of Michigan Medical School, Ann Arbor, is president of the association. Harry W. Sandberg of Moline, Ill., a student at the University of Illinois College of Medicine, Chicago, is vice-president, and David Buchanan of Huron, S. D., a student at the University of South Dakota School of Medical Sciences, Vermilion, treasurer.

Leo Brown of Harrisburg, Pa., is executive secretary, with headquarters in the office of the American Medical Association in Chicago. Mr. Brown will coordinate the activities of the association on a national level.

The association will be made up of academic societies in medical schools of the United States approved by the Council on Medical Education and Hospitals of the A.M.A. The policies of the student organization will be determined by its house of delegates, composed of a student-elected representative from each society. Executive authority will reside in an executive council composed of the officers, seven student councilors and three senior councilors. The officers and student councilors are elected by the students; the senior councilors are named by the A.M.A.

The student councilors elected at the organization meeting are: Bill Davenport, Clinton, Ark. (University of Arkansas School of Medicine, Little Rock); Herbert Sperling, Great Neck, Long Island, N. Y. (Boston University School of Medicine); John W. Looper (Medical College of Georgia, Augusta); Donald J. Brugger, Alliance, O. (Ohio State University College of Medicine, Columbus); J. Allan Henderson, Hood River, Ore. (University of Oregon Medical School, Portland); Charles Wilson (University of Texas School of Medicine, Galveston); Howard J. Christian, Newton, Mass. (Tufts College Medical School, Boston).

The senior councilors have not yet been named. The student organization elected its president and vice-president as representatives to the A.M.A. House of Delegates.

estrogenic substances

injectible

STRADIOL
a-Estradiol, U.S.P.
0.11, 0.275, 0.55 or 1.375 mg. per cc

MACROL
Macrosuspension of *a*-Estradiol, U.S.P.
0.2 or 0.5 mg. per cc

ESTRONE, U.S.P.
Ketohydroxyestratriene
5,000 or 10,000 I. U. per cc

ESTRONE MACROSUSPENSION
Ketohydroxyestratriene, U.S.P.
50,000 I. U. per cc

MICROGEN
Total Estrogenic Substance Assayed on the basis of Estrone
10,000 I. U. per cc

ESTROGENIC SUBSTANCE
Whole Natural Estrogenic Hormone
Assayed on the basis of Estrone
10,000 or 20,000 I. U. per cc

ESTROGENIC MACROSUSPENSION
Total Estrogenic Substance Assayed on the basis of Estrone
10,000 or 20,000 I. U. per cc

ESTROGEX NO. 1
a-Estradiol . . . 0.11 mg. per cc
Progesterone . . . 10.0 mg. per cc

ESTROGEX NO. 2
a-Estradiol—
0.22 mg. per cc
Progesterone—
10.0 mg. per cc

ESTROGEX NO. 3
a-Estradiol—
0.22 mg. per cc
Progesterone—
20.0 mg. per cc

30 cc Vials

PASADENA RESEARCH LABORATORIES, INC.

2107 East Villa St., Pasadena 8, Calif.

OUTLOOK OPTIMISTIC FOR PEPTIC ULCER SUFFERERS

(Continued from Page 68)

According to the article, many acute ulcers in human beings heal spontaneously after a short period of unexplained discomfort, but many, on the other hand, do not. Persons seeking the attention of a doctor are usually chronic sufferers.

"Regardless of the cause," the survey concludes, "both laboratory investigations and practical clinical experience have given the doctor information that makes it possible for him to treat a large majority of patients with success—provided they cooperate."

NERVE SURGERY BRINGS RELIEF TO ANGINA PECTORIS SUFFERERS

Surgical removal of sympathetic nerve tissue near the heart has brought relief to patients suffering from chest pains due to an abnormal state of the heart arteries, according to three Boston physicians.

This condition—known as angina pectoris—produces pain in the chest over the upper part of the heart radiating in various directions but mainly into the left neck and down the left arm. It is common in persons with high blood pressure.

According to a report by Drs. James A. Evans, James L. Poppen and James B. Tobias in *Journal of the American Medical Association*, sympathectomy—as the operation is called—was performed

(Continued on Page 84)

The Alexander Sanatorium, Inc.

Situated in the Foothills of
BELMONT, CALIFORNIA

Specialized care of Convalescents; also NERVOUS, MENTAL and ALCOHOLIC Patients.

Experienced Staff for the application of INSULIN and ELECTRIC SHOCK Therapies and for the CONDITIONED REFLEX TREATMENT of ALCOHOLISM.

Recognized by the American Medical Association; Member of Association of Private Mental Hospitals and of the Western Hospital Association.

MRS. A. S. ALEXANDER, *President* Telephone: LYtell 3-2143

Southern Sierras Sanatarium

• for Tuberculosis and Allied Affections

BANNING, CALIFORNIA

Unsurpassed year-round climate
Near but not upon the desert
Absence of extremes • Altitude 2350 feet

Freedom from Smog

90 miles east of Los Angeles on Highways 99, 60 and 70

Sustained reputation for service and satisfaction

C. E. ATKINSON, M.D. . . *Medical Director*

. . . The Institute for CHILD STUDY

A unified program for the study and personality adjustment of children. Services now offered include counselling; guidance; psychological testing; speech pathology; play therapy and educational therapy.

TRACY J. PUTNAM, M.D.
President

LOUISE J. GORDY, M.D.
Consultant Psychiatrist

ELISE HAHN, Ph.D.
Speech Pathologist

LILLIAN S. SLAFF, M.S.W.
Consultant Psychiatric Social Wark

MARION B. GALE, M.S.
Child Psychologist

O. E. HOOD, M.S.
Executive Director

450 N. Bedford Drive, Beverly Hills, Calif.
Telephone: CRestview 4-5304

Advertisers in your OFFICIAL JOURNAL *will appreciate requests for literature*

Most easily tolerated, most effective in simple iron-deficiency anemias

A quick look at the literature shows that leading hematologists prefer Feosol. That is because it is (1) easily tolerated, and (2) grain for grain, the most effective form of oral iron.

Feosol—the Tablets and the Elixir—affords adequate dosage of ferrous sulfate at a cost to your patient of only a few cents a day. That's another reason why Feosol Tablets and Feosol Elixir are the standard forms of iron therapy.

Smith, Kline & French Laboratories, Philadelphia

Each 2 fluid drams (2 teaspoonfuls) of Feosol Elixir supplies 5 grains ferrous sulfate—approximately equivalent to 1 Feosol Tablet.

Feosol Tablets **Feosol Elixir**

'Feosol' T. M. Reg. U.S. Pat. Off.

the standard forms of iron therapy

NERVE SURGERY BRINGS RELIEF TO ANGINA PECTORIS SUFFERERS

(Continued from Page 80)

on 10 high blood pressure patients suffering with severe attacks of disabling angina pectoris with "satisfactory results" in all cases.

Complete relief was found in half of the patients, of whom three reported throat constriction sensations, a residual symptom in this operation. The remaining five patients experienced "satisfactory results" rather than complete relief. Results were studied over a period of from three months to three years.

The doctors are associated with the Lahey Clinic, Boston.

CYTOLOGICAL EXAMINATION REVEALS EARLY UTERINE CANCERS

Microscopic studies of smears taken directly from the uterine cervix and cervical canal are extremely useful in detecting early uterine cancer in women, according to two Cleveland physicians.

Doctors James W. Reagan and R. T. Schmidt, University Hospitals of Cleveland, report on the effectiveness of this so-called cytological technique in a recent issue of the *Journal of the American Medical Association.*

The accuracy and effectiveness of this method require a highly skilled microscopist trained in cell research. In addition much care must be taken in obtaining the specimen and in preparing the tissue spreads (or smears) for examination.

THE POTTENGER SANATORIUM and CLINIC

For Diseases of the Chest — *Monrovia, California*

AN INSTITUTION FOR DIAGNOSIS AND THERAPY
(Established 1903)

CHOICE rooms and bungalows. Rates moderate and include routine medical and nursing services, interim physical, X-ray and laboratory examination, ordinary medicines and pneumothorax. A charge is made for the first complete examination.

In the foothills of the Sierra Madre Mountains, thirty-five miles from the ocean. Surrounded by beautiful gardens.

Close medical supervision. Aside from tuberculosis, special attention is given to asthma, bronchiectasis, lung abscess and kindred diseases. Separate intitution for children.

For particulars address:

THE POTTENGER SANATORIUM AND CLINIC • Monrovia, Calif.

WHEN YOU THINK "**COLLECTIONS**"

Think—"**THE DOCTORS BUSINESS BUREAU**"

THE OLDEST...THE LARGEST...THE BEST

AND

YOU CANNOT DO BETTER THAN THE BEST

OUR MOTTO:

"Persuasion Prevails Where Force Fails"

THE DOCTORS BUSINESS BUREAU

Call or Write Your Nearest Office:

Spreckels Bldg., Los Angeles 14
TRinity 1252
153 Kearny Street, San Francisco 8
GArfield 1-0460

Latham Square Bldg., Oakland 12
GLencourt 1-8731
Heartwell Bldg., Long Beach
Phone 632-29

Advertisers in your OFFICIAL JOURNAL *will appreciate requests for literature*

To banish depression and nervousness

'Benzebar'—S.K.F.'s logical combination of 'Benzedrine' Sulfate and phenobarbital—ordinarily will dispel the mental depression and relieve the anxiety and tension that accompany so many of life's situations.

These occur, for example, *in association with* . . . family and financial troubles, chronic organic disease, persistent pain, old age and grief; *or following* . . . acute infectious disease, surgical operations, onset of the menopause and childbirth.

Smith, Kline & French Laboratories, Philadelphia

Benzebar*

the unique antidepressant action of 'Benzedrine' Sulfate and the mild sedation of phenobarbital*

Each 'Benzebar' tablet contains 'Benzedrine' Sulfate (racemic amphetamine sulfate, S.K.F.), 5 mg.; phenobarbital, ¼ gr.

*T.M. Reg. U.S. Pat. Off.

*Ingraloids

Estrogens
Testosterone
Vitamin B_{12}
Progesterone
Calcium
Levulinate

*Trade Mark
Specialized Parenteral
Medication

By
INGRAM
LABORATORIES, INC.
SAN FRANCISCO 11, CALIF.

FIND CORTISONE GIVEN BY MOUTH EFFECTIVE AND ADVANTAGEOUS

Because of the highly satisfactory results obtained when patients were given cortisone by mouth, three San Francisco physicians report that in their practice the oral method has almost completely supplanted the intramuscular injection technique of administering the drug.

For their preliminary study, 29 patients from the Veterans Administration Hospital in San Francisco and from their private practices were selected by Doctors Ephraim P. Engleman, Marcus A. Krupp and Peter Kunkel of the VA hospital. Dr. Engleman is also associated with the University of California Medical School and Dr. Krupp with the Stanford University School of Medicine.

The patients selected for the study—reported in a recent issue of the *Journal of the American Medical Association*—had diseases, including rheumatoid arthritis, known to respond favorably to cortisone and severe enough to warrant the use of the hormone.

In order to make a comparison of the two methods, 12 of the 29 patients were treated first with intramuscular injections and then with cortisone suspended in a fruit-flavored syrup.

"The effect of cortisone when taken orally," they reported, "is prompt and of short duration whereas the action of a dose given intramuscularly is slower to appear and may last for a number of days."

The doctors were of the opinion that since the oral dose is dissipated more rapidly than that of an equivalent intramuscular dose, cortisone must be taken orally three or four times during the waking hours. However, the large "priming" doses used in intramuscular treatment usually seemed unnecessary when oral treatment was initiated, they said.

The remaining group of 17 patients, with chronic or acute diseases such as rheumatoid arthritis, skin diseases and rheumatic fever, was given cortisone only by mouth.

In three of these patients, the report showed, the initial oral dose was not large enough to produce a therapeutic effect. (The minimal effective dose varies widely for different patients and must be determined by trial.)

Only one of the remaining 14 patients failed to respond within 36 hours and 10 of them showed "symptomatic and objective improvement" within four to 12 hours after the beginning of therapy.

The report continued:

"In this preliminary trial the oral administration of injectable cortisone has proved so satisfactory that it has almost completely supplanted the intramuscular route in our practice.

"The minimal effective oral dose of cortisone may be slightly larger than the intramuscular dose, but the disadvantages of a larger maintenance dose may be offset by the significant advantages of oral administration.

"The fact that oral administration of cortisone usually produces a therapeutic effect within a few hours is of obvious advantage in the treatment of

(Continued on Page 22)

antibacterial action plus...

■ **greater solubility**

Gantrisin is a sulfonamide so soluble that there is no danger of renal blocking and no need for alkalinization.

■ **higher blood level**

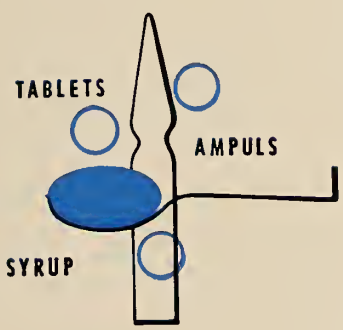
Gantrisin not only produces a higher blood level but also provides a wider antibacterial spectrum.

■ **economy**

Gantrisin is far more economical than antibiotics and triple sulfonamides.

■ **less sensitization**

Gantrisin is a single drug—not a mixture of several sulfonamides—so that there is less likelihood of sensitization.



GANTRISIN®—brand of sulfisoxazole
(3,4-dimethyl-5-sulfanilamido-isoxazole)

HOFFMANN-LA ROCHE INC.

Roche Park • Nutley 10 • New Jersey

Head Pain as a Diagnostic Aid

Frequently the presence of head pain is overlooked. The physician learns of it only if he has made an effort to elicit the information. Etiology is the key to rational management. The patient should be warned against taking medication before diagnosis.

Friedman deplores the regrettable tendency to call any chronic recurring headache migraine. Thoroughgoing history-taking and full physical and neurological examination are essential for accurate diagnosis. The following chart gives briefly the primary diagnostic leads and therapy for some common types of headaches.

Etiology of Headache	Primary Diagnostic Data	Primary Therapy
Inflammatory e.g., Meningitis Abscess	Inflammation of intracranial structures; fever; leucocytosis; bacteriologic diag.	Specific: sulfonamides and antibiotics. Symptomatic: analgesics.
Tumor	Pain varies as spinal press. changes; skull X-ray.	Specific: surgery. Symptomatic, analgesics, &/or hypnotics.
Sinusitis	Sinus congestion and infection; cloudy X-ray.	Specific: antibiotics and drainage. Symptomatic: analgesics.
Hypertensive	Hypertension present but pain not related to b.p. level; Dihydroergotamine. relieves pain.	General hypertension therapy; sedation. Symptomatic: analgesics.
Migraine & other vascular headaches	Headache: recurrent, intense, throbbing. No organic causation; migraine in family; patient: energetic, perfectionist. Visual prodromata; g-i. upset during headache.	To abort attack: oral ergotamine plus caffeine — Cafergot (dosage given below) General: adjustment to minimize nervous stress.

Data tabulated is from: Wolf, G. Jr.: Pennsylvania M. J. 54: 25, 1951. Friedman, A. P., in Conn, H. T.: Current Therapy, 1950, Phila., Saunders Co., 1950, p. 563.

Acute Migraine Attack Therapy: Numerous clinical studies have reported effective oral treatment with Cafergot® tablets (ergotamine tartrate 1 mg. plus caffeine 100 mg.). Reeves says Cafergot affords ". . . predictable response, economy, flexibility, oral administration and absence of notable side effects." Proper dosage procedure is important. Failures in true migraine result from inadequate or delayed dosage.

Dosage; two tabs. at onset of attack and, if necessary 1 tab. every ½ hr. till full relief (limit: 6 tabs.).

DOSAGE INSTRUCTION SLIPS for the patient, available on request, write to:

Sandoz Pharmaceuticals

DIVISION OF SANDOZ CHEMICAL WORKS, INC.
68 CHARLTON STREET, NEW YORK 14, N. Y.

A.Ph.A. ACTION ON PROPOSED PRESCRIPTION REFILL RULING

The attorneys for the American Pharmaceutical Association gave careful study to the proposed ruling offered by the Federal Security Administrator for the clarification of the references to filling and refilling of prescriptions in the Federal Food, Drug and Cosmetic Act and regulations thereunder. The 30-day period allowed for filing written comment on the proposed ruling expired on January 5, 1951.

Messrs. Thurman Arnold and Walton Hamilton of Arnold, Fortas & Porter, attorneys for the A.Ph.A., have sent a communication to the secretary of the American Pharmaceutical Association setting forth their interpretation of the proposed ruling filed by the Federal Security Administrator in the *Federal Register* for December 6, 1950. They have sent a copy of this letter to the Administrator, Oscar Ewing, informing him of the advice which they are giving the members of the American Pharmaceutical Association with respect to the filling and refilling of prescriptions under the proposed order.

In their communication to the Administrator they also suggested that an amendment to his definition of the term "prescription," while perhaps not necessary, would serve to set at rest any doubt as to the conditions under which the telephone may be used as a method of communicating prescriptions.

In the proposed ruling the term "written prescription" is defined as follows: "The term 'written prescription' as used in paragraph (b) of this section, means a written order signed by a physician, dentist, or veterinarian, directing the dispensing of a specific quantity of a drug or device for the person named in the order; and the phrase 'dispensed upon written prescription' does not include refilling the prescription or otherwise dispensing any quantity of the drug or device in addition to that specified in the order, unless the refilling, or other dispensing of the additional quantity, is authorized in writing by the prescriber."

The amendment suggested by the attorneys for the American Pharmaceutical Association would add the following: "The requirement of a written prescription signed by a physician shall be deemed to be fulfilled if:

"1. The physician dictates the prescription — or authorizes the refill — to the dispensing pharmacist over the telephone, with full directions for use and precise instructions in respect to later refills;

"2. The pharmacist makes and preserves in writing an accurate record of the prescription—or of the authorized refill—as dictated; and

"3. The physician notifies the pharmacist, at the time of the phone call, that a proper entry is being made on the record of the patient in the physician's office to the effect that the prescription was given or the refill authorized."

The secretary of the American Pharmaceutical Association is not expected to issue the interpretation of the proposed order as supplied by counsel for the Association until the Administrator issues the ruling in final form.

(Continued on Page 22)

ACTHAR represents the natural stimulus for the adrenal glands to secrete the entire spectrum of cortical hormones at a rapidly increased rate. Thus the role of ACTHAR is to provide true stimulation therapy in a wide variety of diseases. ACTHAR neither substitutes nor replaces individual cortical hormones. Mobilization of physiologic mechanisms accounts for the safety of ACTHAR and permits prolonged courses of treatment without rest periods.

ESTABLISHED INDICATIONS: Collagen diseases or connective tissue diseases, such as rheumatoid arthritis, rheumatic fever, acute lupus erythematosus; hypersensitivities, such as severe asthma, drug sensitivities, contact dermatitis; most acute inflammatory diseases of the eye; acute inflammatory conditions of the skin, such as acute pemphigus and exfoliative dermatitis; inflammatory conditions of the intestinal mucosa, such as ulcerative colitis; and metabolic diseases, such as acute gouty arthritis and secondary adrenal cortical hypofunction.

Literature and directions for administration of ACTHAR, including contraindications, available on request.

ACTHAR is available in 10, 15, 25 and 40 milligram vials.

ACTHAR

ARMOUR LABORATORIES BRAND OF ADRENOCORTICOTROPIC HORMONE (A. C. T. H.)

THE ARMOUR LABORATORIES

CHICAGO 11, ILLINOIS

PHYSIOLOGIC THERAPEUTICS THROUGH BIORESEARCH

FIND CORTISONE GIVEN BY MOUTH EFFECTIVE AND ADVANTAGEOUS

(Continued from Page 12)

acute disease. The brief action of an oral dose permits prompt termination of the effect of cortisone should dangerous reactions occur."

According to the doctors, there is no reason to believe that the hazards of cortisone are reduced by use of the oral method. Side effects such as skin rash, rounding of the face, retention of salt and water in the body, high blood pressure and others have been attributed to cortisone.

In conclusion they said their experience with cortisone tablets indicated that there was "no difference in therapeutic effect" between these and cortisone in syrup.

A.Ph.A. ACTION ON PROPOSED PRESCRIPTION REFILL RULING

(Continued from Page 18)

In the meantime, pharmacists are advised that although the proposed ruling falls short of giving everything that the association asked for, it marks a substantial advance, which on the basis of the interpretation by counsel for the American Pharmaceutical Association will provide adequate official guidance in the filling and refilling of prescriptions.

As soon as the final ruling is promulgated, the American Pharmaceutical Association will issue its interpretation for the guidance of the profession. Any further action to be taken will depend upon the form of the final ruling.

ROBERT P. FISCHELIS, *Secretary*

Lawton School for MEDICAL ASSISTANTS
Founded 1938

TRAINED TO MEET YOUR REQUIREMENTS

Write us when in need of a qualified MEDICAL ASSISTANT

•

Ask us about our INTERNE PLAN

•

M. MURRAY LAWTON, M.D., Director
8475 BEVERLY BOULEVARD • LOS ANGELES 48, CALIF.

COMPTON SANITARIUM
820 West Compton Blvd. Compton, California
NEvada 6-1185

High Standards of Psychiatric Treatment

Las Campanas Hospital
under same Medical Direction

Approved by American College of Surgeons

Philip J. Cunnane, M.D. *Director*
G. Creswell Burns, M.D. *Medical Director*
Helen Rislow Burns, M.D. *Assistant Medical Director*

Established in 1915

PROMPT PAIN RELIEF...
RAPID, PROLONGED
ANTACID ACTION...
HIGH ACID-BUFFER
ACTION...
LOW ALUMINUM
CONTENT...
NO ACID REBOUND
...PLEASANT
TASTE... NO
NEED
TO
CHEW...

In peptic ulcer and hyperacidity, Alzinox gives prompt and prolonged symptomatic relief, without alkalosis or acid rebound — the pH goes no higher than pH 4.5 even when Alzinox is given in excess.

High acid-buffer capacity with minimum aluminum content is made possible by its unique combination with amino-acetic acid.

Alzinox is also available combined with phenobarbital and homatropine methyl bromide—for antacid-sedative-antispasmodic medication in one product.

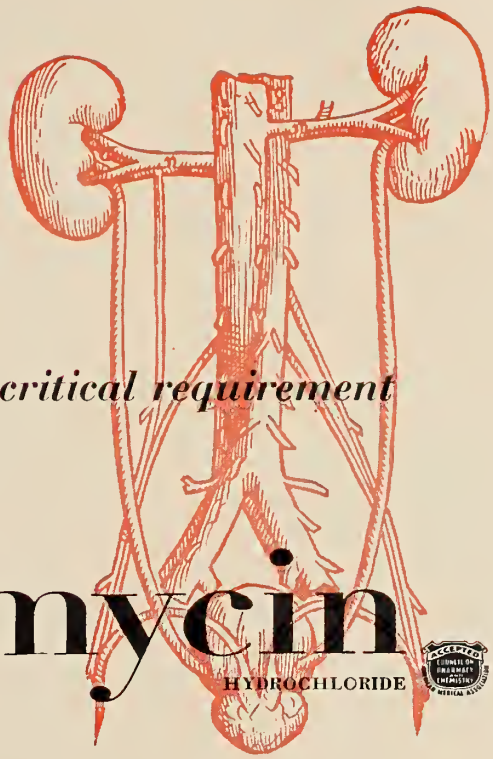
ALZINOX TABLETS—0.5 Gm. (7.7 grs.) bottles of 100 and 500.
MAGMA ALZINOX—0.5 Gm. (7.7 grs.) per 5 cc. bottles of 8-oz.
ALZINOX with Phenobarbital (1/4 gr.) and Homatropine Methyl Bromide (1/100 gr.)—bottles of 100 and 500.
MAGMA ALZINOX with Phenobarbital (1/8 gr. per 5 cc.) and Homatropine Methyl Bromide (1/100 gr. per 5 cc.) bottles of 8-oz.

ALZINOX (PATCH)
Brand of Dihydroxy Aluminum Aminoacetate

THE E. L. PATCH COMPANY
STONEHAM, MASS.

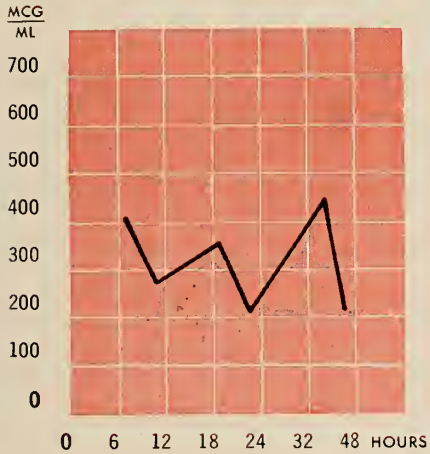
In the selection of an antibiotic for URINARY ANTISEPSIS

high urinary levels
rapidly achieved
and easily maintained
are a critical requirement



CRYSTALLINE
Terramycin
HYDROCHLORIDE

concentration of Terramycin in the urine following divided oral doses: 0.5 Gm. q 6 h.[3]



This newest of the broad-spectrum antibiotics is stable and active in the urine. High levels are rapidly achieved and easily maintained by oral administration. Within one-half hour after a single 2 Gm. dose, detectable amounts have appeared in the urine,[1] and a single 0.5 Gm. dose has been shown to produce high concentrations lasting twenty-four hours.[2] When multiple doses are given, continuous urinary concentrations of Terramycin in the range of 300-400 mcg./ml. are obtained, as shown in the accompanying chart.[3]

These observations are given added significance by the highly satisfactory clinical experience and the prompt response obtained with Terramycin in a wide range of infections of the urinary tract.

Supplied: 250 mg. capsules, bottles of 16 and 100;
100 mg. capsules, bottles of 25 and 100;
50 mg. capsules, bottles of 25 and 100.

1. Schoenbach, E. B.; Bryer, M. S., and Long, P. H.: Ann. New York Acod. Sc. 53:245 (Sept. 15) 1950.
2. Welch, H.; Hendricks, F. D.; Price, C. W., and Randoll, W. A.: J. A. Ph. A. (Sc. Ed.) 39:185 (Apr.) 1950.
3. Welch, H.: Ann. New York Acod. Sc. 53:253 (Sept. 15) 1950.

Antibiotic Division Pfizer CHAS. PFIZER & CO., INC., *Brooklyn 6, N. Y.*

EAR INJURIES ARE THREAT OF NOISE IN INDUSTRY

The control of ear injuries due to excessive sound —the most frequent threat to the ears of workers today—is a major responsibility of industrial medicine, according to Raymond Carhart, Ph.D., of Evanston, Ill. Dr. Carhart is associated with Northwestern University School of Speech and Department of Otolaryngology.

Auditory impairment due to excessive sound, known as acoustic trauma, damages the ears without doing other physiological harm, he pointed out in the *Archives of Industrial Hygiene and Occupational Medicine*, published by the American Medical Association.

Dr. Carhart said that acoustic trauma can be caused by a number of things: continuous noise, steady sound at high intensities, sound of percussive and explosive varieties, and pulsating noises, especially when unexpected and irregular. He cited the pneumatic hammer as a good example of "a dangerously strong percussion sound."

A full program for protecting the "ears of industry," he said, can be effective only if endorsed by both management and labor. This is his proposed three-point program:

1. Noises should be controlled with sound absorbing materials, by muting devices, or, if possible, by replacement with new, noiseless machines. If

(Continued on Page 32)

ALUM ROCK SANATORIUM
SAN JOSE, CALIFORNIA
Telephone Clayburn 8-4921

A Non-Profit Sanatorium for the treatment of tuberculosis and other diseases of the chest.

MEDICAL DIRECTOR
Buford H. Wardrip, M.D.

ASSOC. MEDICAL DIRECTOR
C. Gerald Scarborough, M.D.

VISITING MEDICAL STAFF
Cabot Brown, M.D., San Francisco
Gerald L. Crenshaw, M.D., Oakland
J. Lloyd Eaton, M.D., Oakland
Ina Gourley, M.D., Oakland
H. Corwin Hinshaw, M.D., San Francisco
W. Dale Peterson, M.D., Oakland
Glenroy N. Pierce, M.D., San Francisco
Harold Guyon Trimble, M.D., Oakland
James Robert Wood, M.D., Oakland

CONSULTING PATHOLOGIST: E. Gwyn Roberts, M.D., San Francisco

THE MEDICAL PROTECTIVE COMPANY
FORT WAYNE, INDIANA

Professional Protection Exclusively since 1899

LOS ANGELES Office:
D. C. Seeman, Representative,
417 First Trust Bldg., Pasadena
Telephone RYan 1-6981
and SYcamore 3-0676

SAN FRANCISCO Office:
Gordon C. Jones, Representative,
1735 Sweetwood Drive
Telephone Plaza 5-4478

KABAT-KAISER INSTITUTE
For Neuromuscular Rehabilitation

1815 Ocean Front
Santa Monica, California

Specializing in the Treatment of the Crippled and Physically Handicapped Patient

Resident and Out-Patient Services

Resident Medical Director:
O. LEONARD HUDDLESTON, M.D., Ph.D.
Diplomate American Board of Physical Medicine

Richard W. Moore, M.D. David Rubin, M.D.
Clark Richardson, M.D. Rene Cailliet, M.D.

Phone: EXbrook 3-2751

Advertisers in your OFFICIAL JOURNAL *will appreciate requests for literature*

in daily practice... **combat** the troublesome triad:

PAIN

DEPRESSION

SPASM

WITH **azurets**

Whenever *pain, depression or spasm* block the road to recovery, AZURETS provide prompt and effective relief.

A valuable palliative agent in a wide variety of disorders, AZURETS are particularly indicated in rheumatic and other musculo-skeletal disorders, dysmenorrhea, and the aftermath of alcoholic excess. By virtue of four components, in balanced combination, AZURETS produce:

Prompt Analgesia through the action of acetylsalicylic acid.

Relief of Mental Depression mediated by the cerebral stimulant action of amphetamine phosphate.

Inhibition of Spasm without undesirable side action through homatropine methylbromide.

Restoration of Normal Nerve Function through the neurotonic action of thiamine hydrochloride.

azurets help get your patients back to work sooner . . . not only by relieving their physical symptoms . . . but also by elevating mood and fostering the "will to work."

azurets Available in bottles of 100 tablets.
Dosage: One or two tablets two or three times daily.

each azuret	contains:	Acetylsalicylic Acid	300 mg.
		Thiamine Hydrochloride	10 mg.
		Homatropine Methylbromide	1.25 mg.
		Amphetamine Phosphate	2.5 mg.

Laboratories, INC • MILWAUKEE 1, WISCONSIN

Advertisers in your OFFICIAL JOURNAL *will appreciate requests for literature*

EAR INJURIES ARE THREAT OF NOISE IN INDUSTRY

(Continued from Page 26)

noise cannot be controlled by these methods, workers should be required to wear ear defenders.

2. A program of ear and hearing examination—for the protection of both the worker and his employer—should be carefully planned.

3. Analysis of each individual case should be the basis for appropriate job allocation. Workers with hearing losses or those susceptible to acoustic trauma should not be placed in situations where their impairment might constitute a hazard to themselves or others.

SAYS SURGERY AND MEDICINE REMOVE BLIND FROM AID ROLLS

Surgical intervention and medicine are removing thousands from the blind aid list, but there is much work yet to be done, according to a Beverly Hills (Calif.) ophthalmologist.

Praising the rehabilitation program being carried on in several states, Dr. Alexander R. Irvine said, in a recent issue of the *Journal of the American Medical Association*, that "noteworthy progress had been made in the last few years."

The importance of rehabilitation of the blind and the need for greater effort in this direction from the standpoint of the patient on one hand and the huge

(Continued on Page 33)

THE CALIFORNIA SANATORIUM

Fully equipped for the diagnosis and modern treatment of diseases of the chest, including tuberculosis and other respiratory diseases

BELMONT, CALIFORNIA

Telephone: LYtell 3-2171

San Francisco Office:
536 Mason Street
Phone DOuglas 2-5793

THOMAS B. WIPER, M.D.
Director and Consultant in Thoracic Surgery

ALLEN A. LILIENTHAL
W. N. TORRE, M.D.
Resident Clinicians

CLINICAL STAFF

•

MEDICAL STAFF OF CALIFORNIA

Charles M. Campbell, Jr., M.D.
Director of Clinical Services

Richard H. Lambert, M.D.
Consulting Psychiatrist

Ivan A. McGuire, M.D.
Consulting Psychiatrist

David L. Reeves, M.D.
Consulting Neurologist

•

Thomas W. Jefferson, Ph.D.
Clinical Psychologist

STABILITY *through Education with Therapy*

EMOTIONAL GROWTH must keep pace with intellectual development if the child is to become a stable, well-adjusted adult . . . successful, happy and valuable to society. The disturbed child is doubly handicapped—emotional imbalance interferes with his acceptance of education and carries its own burden of character maladjustment.

When you meet the problem of providing a school-age patient with specialized guidance, we invite you to let us evaluate the needs. When the intelligence is normal, but emotional disturbances block the ability to learn, our experienced staff will carefully study the details and offer a considered report.

Please address your inquiries to HELEN V. BARCLAY, *Registrar*

HUMANI NIHIL A ME ALIENUM PUTO
DEVEREUX FOUNDATION
CALIFORNIA ... PENNSYLVANIA

Devereux Schools

Helena T. Devereux, Director

SANTA BARBARA, CALIFORNIA • DEVON, PENNSYLVANIA

SAYS SURGERY AND MEDICINE REMOVE BLIND FROM AID ROLLS

(Continued from Page 32)

funds necessary for his support on the other were brought out by Dr. Irvine.

"Because of the tremendous increase in the population of the United States and the fact that the span of life has been lengthened 20 years in the last few decades, the blind program has become one of great economic concern to us all," he said.

In most states, the blind person receives, on the average, $50 a month, the article explained. The federal government paid over $40,000,000 in 1948-49 to aid the blind. Rehabilitation has saved the taxpayer about $2,000,000 yearly.

The National Association for Prevention of Blindness estimates that there are approximately 280,000 blind men, women and children in this country.

"Much could be accomplished if these savings through restoration of vision could be allotted to research associations and institutions for prevention of blindness and the treatment of the blind," Dr. Irvine commented.

He noted that less than $1,000,000 a year is being spent in universities and laboratories for eye research.

The "great advances" that were made in the past 50 years in the knowledge of the eye and its diseases were cited by Dr. Irvine to be due to the "development of the ophthalmoscope and the slit lamp and the progress made in physiology that enables the clinician to correlate his observations with the microscopic changes in diseases affecting the eye."

(Continued on Page 46)

THE POTTENGER SANATORIUM and CLINIC

For Diseases of the Chest — *Monrovia, California*

AN INSTITUTION FOR DIAGNOSIS AND THERAPY
(Established 1903)

CHOICE rooms and bungalows. Rates moderate and include routine medical and nursing services, interim physical, X-ray and laboratory examination, ordinary medicines and pneumothorax. A charge is made for the first complete examination.

In the foothills of the Sierra Madre Mountains, thirty-five miles from the ocean. Surrounded by beautiful gardens.

Close medical supervision. Aside from tuberculosis, special attention is given to asthma, bronchiectasis, lung abscess and kindred diseases. Separate intitution for children.

For particulars address:

THE POTTENGER SANATORIUM AND CLINIC • Monrovia, Calif.

Refresh...add zest to the hour

Every diabetic survey emphasizes the startling percentage of unknown diabetics in our population—and increasing longevity is constantly adding to this total.

now, more than ever, professional vigilance is needed....

because a good prognosis in diabetes depends largely on early detection and careful control.

CLINITEST

for urine-sugar analysis

For early detection and careful control of diabetes, thousands of physicians and patients prefer *Clinitest* (Brand) Reagent Tablets for simplicity, speed, accuracy and convenience. *Clinitest* Reagent Tablets give quantitative urine-sugar readings, offering a clinically accurate check in less than one minute.

Clinitest, trademark reg.

Illustrated—*Clinitest* Urine-sugar Analysis Set, **Universal Model No. 2155.**

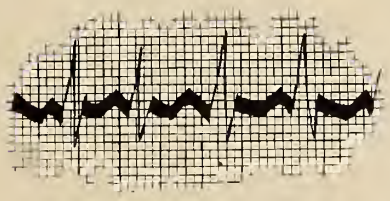
AMES COMPANY, INC • ELKHART, INDIANA

Ames Company of Canada, Ltd., Toronto

Effective against many bacterial, and rickettsial infections, as well as certain protozoal and large viral diseases.

AUREOMYCIN

Hydrochloride Crystalline

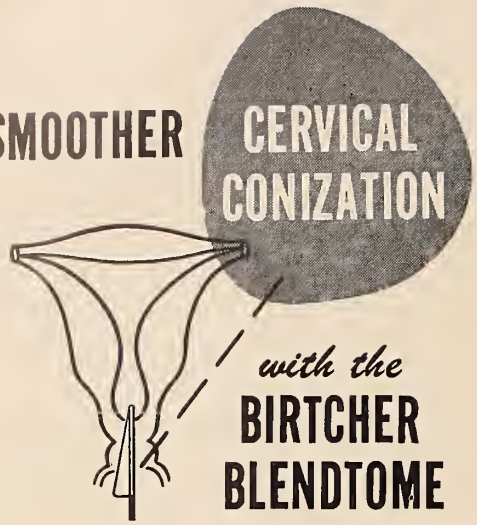


The Internist today is less concerned than in former years over cases of pneumonia. Once highly fatal, this disease has been all but conquered by modern chemotherapy. For many pneumonias—bacterial, rickettsial or viral—aureomycin is often a preferred drug.

Packages

Capsules: Bottles of 25 and 100, 50 mg. each capsule. Bottles of 16 and 100, 250 mg. each capsule.
Ophthalmic: Vials of 25 mg. with dropper; solution prepared by adding 5 cc. of distilled water.

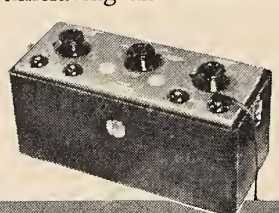
LEDERLE LABORATORIES DIVISION
AMERICAN Cyanamid COMPANY
30 Rockefeller Plaza, New York 20, N.Y.



Frequent necessity of cervical repair suggests the practicality of having a BLENDTOME ELECTROSURGICAL Unit in the office or clinic. With this instrument, the doctor is enabled to do a smoother cervical conization. The BLENDTOME cuts and coagulates simultaneously with a blended current. Scar and other tissue is cut through quickly and easily; blood and lymph vessels are almost instantly sealed. The cleaner field results in reduced trauma and operative shock, smoother convalescence and more rapid healing.

The Birtcher BLENDTOME was *designed* for use in the doctor's office or private clinic. It provides electrosurgery for all but the strictly major cases. There are many everyday uses for the BLENDTOME—any case indicating fast and sure cutting with simultaneous sealing off of blood and lymph vessels.

Consider how much more you would be able to do with the ease, timesaving and effectiveness of a Birtcher BLENDTOME in your own office. Write for literature.



THE BIRTCHER CORPORATION

To: The BIRTCHER Corp., Dept. CM 4-51
5087 Huntington Dr., Los Angeles 32, Calif.

Please send me, by return mail, free brochure on the portable Blendtome Electrosurgical Unit.

Dr._____

Street_____

City_____State_____

RAPID GROWTH OF VOLUNTARY HEALTH INSURANCE REPORTED

Voluntary health insurance is spreading so rapidly that a coverage of 90,000,000 Americans against the major costs of illness should come within the next two or three years, said Dr. Elmer L. Henderson of Louisville, president of the American Medical Association. Writing in a recent issue of the *Journal of the A.M.A.*, Dr. Henderson said that between 70,000,000 and 72,000,000 people now have some form of voluntary health insurance. Dr. Henderson, in reporting the rapid growth, said the second Blue Shield medical care plan, the United Medical Service, operating in the New York metropolitan area, has just passed its 2,000,000 mark in enrollment. The first plan to reach that figure was the Michigan Medical Service. He said further:

"Together, the achievements of these two great medical care plans illustrate dramatically the eternal truth which some of our detractors would deny—that voluntary health insurance is a growing, successful, practical method of taking the economic shock out of illness.

"The United Medical Service, for instance, has reached its present size in six and one-half years. It operates in the 17 southern counties of New York State, with the active approval of the Medical Society of the State of New York and of the medical societies in those 17 counties. Half a million members were gained during 1950—one-fourth of the total enrollment. The goal for the next year or year and a half has been set at a further increase of 1,000,000 members.

"It is pertinent here to cite some figures showing the remarkable growth of the nonprofit medical care plans over the nation. There now are 72 Blue Shield plans in 41 states. Participating in their operation are 113,000 out of the 150,000 physicians who are in active, private practice. Last year the Blue Shield plans paid out $150,000,000 for surgical and medical services rendered to member patients; this at the rate of 82 cents of every dollar paid in premiums.

"The Blue Shield plans are enrolling members at the rate of 28,000 every working day, and they now protect approximately 12 per cent of the population —more than 17,000,000 persons. Other nonprofit medical care plans not yet in the Blue Shield group cover an additional 2,250,000 persons. During 1950 the Blue Shield plans of the nation gained 5,000,000 new members, an all-time record growth.

"The Blue Cross hospital plans kept pace. They added more than 3,000,000 new members in 1950, carrying them beyond the 40,000,000 mark in total enrollment. Out of every premium dollar, Blue Cross plans are paying out close to 88 cents in benefits for services to their member patients.

"But the spirit of competition, of improvement, is by no means confined to the nonprofit medical care plans. Final and complete figures from the insurance companies and the various other agencies in the health insurance field will not be available for several months, but it is a conservative estimate, based on all known developments in 1950, that between 70,000,000 and 72,000,000 Americans now have some form of voluntary health insurance coverage."

The symptoms of the premenstrual state can now be controlled safely and quickly...

—combines in each tablet 50 mg. of N,N-Dimethyl-N'-(2-pyridyl)-N'-(p-methoxybenzyl) ethylenediamine 8-bromotheophyllinate *[pyrabrom]*—with 100 mg. of acetophenetidin, the dependable, safe analgesic. M-MINUS 4 has evidenced dramatic effectiveness in clinical studies. Patients taking M-MINUS 4 have experienced relief of all symptoms in a very short time. There is good evidence that the administration of M-MINUS 4 has prevented the accumulation of abnormal amounts of fluid in the tissues.

Dosage—One tablet three times a day for three to five days before onset of menses.

Bottles of 24 and 100 tablets

Literature and a prescription package of 24 tablets will be sent upon request.

Whittier
LABORATORIES
DIVISION NUTRITION RESEARCH LABORATORIES, INC.
CHICAGO 11, ILLINOIS

Caution: In some individual cases there may be drowsiness or dizziness.

SAYS SURGERY AND MEDICINE REMOVE BLIND FROM AID ROLLS

(Continued from Page 33)

Of the future he says:

"It becomes apparent that ophthalmology encompasses a field so large that one person cannot hope to cover it, which suggests that in the future specialization will increase. There will probably be more emphasis on and attention paid to group practice, each man within the group having his particular interest and talents, all of which will be necessary to best care for the patient's needs."

REPORT ON STUDY OF REGIONAL BLOOD GROUP DISTRIBUTIONS

The blood type of 141,774 men and women who voluntarily contributed blood to the American Red Cross from January 1948 through March 1949 is the subject of a report in a recent issue of the *Journal of the American Medical Association.*

The total percentage of persons falling into each blood type from all 15 regions was as follows: O blood group, 45.55 per cent; A, 40.77 per cent; B, 9.96 per cent, and AB, 3.72 per cent. The O type blood can be used in all transfusions regardless of blood type of the recipient. . . .

THE NEW YORK POLYCLINIC

MEDICAL SCHOOL AND HOSPITAL

(Organized 1881)

(The Pioneer Post-Graduate Medical Institution in America)

Proctology and Gastroenterology

A combined course comprising attendance at clinics and lectures; instruction in examination, diagnosis and treatment; witnessing operations; ward rounds; demonstration of cases; pathology; radiology; anatomy; operative proctology on the cadaver.

EYE, EAR, NOSE and THROAT

A combined full-time course covering an academic year (9 months). It consists of attendance at clinics, witnessing operations, lectures, demonstration of cases and cadaver demonstrations; operative eye, ear, nose and throat (cadaver); head and neck dissection (cadaver); clinical and cadaver demonstrations in bronchoscopy, laryngeal surgery and surgery for facial palsy; refraction; radiology; pathology; bacteriology and embryology; physiology; neuro-anatomy; anesthesia; physical medicine; allergy; examination of patients preoperatively and follow-up postoperatively in the wards and clinics. Also refresher courses (3 months).

For Information Address: THE DEAN, 345 West 50th Street, New York 19, N. Y.

CROCKER FIRST NATIONAL BANK · ESTABLISHED 1870 · CALIFORNIA'S OLDEST NATIONAL BANK

Automobile Loans at Bank Rates

We invite you to compare *Bankway* rates before you finance the purchase of your next car. There are no hidden "extra" charges. You will know the exact loan costs in advance of delivery. Use Crocker *Bankway* Credit to finance your automobile.

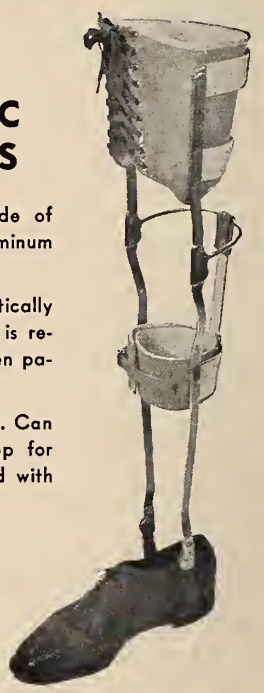
CROCKER FIRST NATIONAL BANK

1 Montgomery Street, San Francisco
13th at Franklin Street, Oakland

Member F. D. I. C.

for . . .

ORTHOPEDIC APPLIANCES



This long leg brace is made of stainless steel and strong aluminum alloy.

The knee joints lock automatically when leg is extended. Lock is released by edge of chair when patient sits.

Ankle joint is at action level. Can have spring lift or 90° stop for drop foot. Stirrup is covered with leather to match shoe.

△

Established 1893

"Two Generations of Appliance Makers"

△

M. J. BENJAMIN

501-518 Paramount Theatre Bldg.

Two Elevator Entrances

323 WEST 6th ST. 536 SO. HILL ST.

Phone MAdison 1593 • LOS ANGELES

Advertisers in your OFFICIAL JOURNAL *will appreciate requests for literature*

Tolanate

BRAND OF INOSITOL HEXANITRATE

CSC

A Newly Available Organic Nitrate for the Management of Hypertension

Tolanate, making available for clinical use the therapeutic virtues of inositol hexanitrate, finds wide usefulness in the management of hypertension. It has been shown to be particularly valuable in essential hypertension and the hypertension of the menopause. One of its most desirable clinical features is the complete absence of "nitrite headache," expanding its applicability to many patients who cannot tolerate other organic nitrates.

LOWER DOSAGE The average dose of Tolanate is 10 mg. three or four times daily. This quantity has been found to produce a clinically acceptable drop in tension in most patients.

PROMPT SUBJECTIVE RELIEF The distressing subjective symptoms of hypertension are promptly relieved by Tolanate. The general vasodilation resulting from the relaxation of the arteriolar smooth musculature aids in improving tissue nutrition and function.

PROLONGED SUSTAINED ACTION Inositol hexanitrate, the active ingredient of Tolanate, is one of the longest acting organic nitrates known. Hence administration every 4 to 6 hours maintains a uniform, continuous depression of the blood pressure.

Tolanate is supplied in 10 mg. tablets in bottles of 100 and 1000. Also available as Tolanate with Phenobarbital, each tablet containing 10 mg. of inositol hexanitrate and 16 mg. (¼ gr.) of phenobarbital.

C.S.C. Pharmaceuticals

A DIVISION OF COMMERCIAL SOLVENTS CORPORATION, 17 EAST 42ND STREET, NEW YORK 17, NEW YORK

Chemically Standardized Veratrum Viride Is Effective in Hypertension

Much has been written pro and con about the value of veratrum viride in hypertension. For many years the drug has been in disrepute because of the fact that the preparations available on the market have been prepared by "hit or miss" methods.

Chemical standardization of veratrum viride, however, has provided in this drug a highly effective agent for the treatment of hypertensive patients.

Sollmann[1] states that veratrum is probably the most active and reliable cardiac depressant and that its use serves to slow and soften the pulse and lower the blood pressure.

Willson & Smith[2] state that veratrum viride possesses a vasodilating effect and because of this, it was demonstrated by Hite,[3] and Freis and Stanton,[4] that the drug lowered pressure in hypertension and gave symptomatic relief. Recent research tends to show that the decrease in blood pressure results more from peripheral vasodilation than from depression of cardiac output.

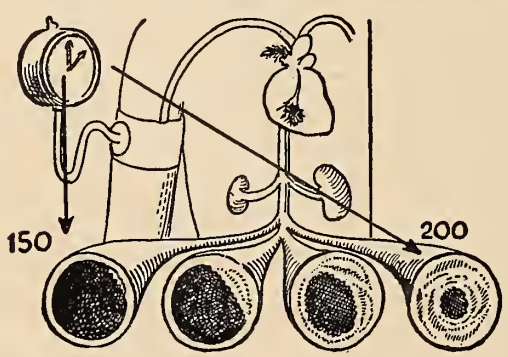
Uniformity of Action

When the veratrum alkaloids are chemically standardized, a uniform result can be expected. Their action usually causes a reflex fall in blood pressure and heart rate which originates in the afferent vagus nerve endings in the myocardium of the left ventricle and in the lungs. Although these factors ordinarily result with each heart beat, the veratrum alkaloids cause them to act continuously over prolonged periods of time. Reports have shown that 80 to 90 per cent of hypertensive patients respond to therapy when chemically standardized veratrum viride is used.

Cardio-Vascular Symptoms Cleared

In addition to the lowered pressure, objective signs of improvement may be observed, such as the clearing of retinal hemorrhages; diminution in cardiac size and reversal of left ventricular strain patterns in electrocardiograms.

Accompanying symptoms of the cardiac-hypertension syndrome, such as exertional dyspnea, tachycardia, nervous irritability, headache, are relieved. Yet, while the results of veratrum viride medication are prolonged, the drug may not afford quick relief.



Role of the Nitrites

For prompt and effective fall in blood pressure, nitroglycerin, which acts in one to two minutes, is the drug of choice. It acts rapidly and, because of its powerful vasodilatory action, gives the patient almost immediate relief. The action of nitroglycerin, however, is fleeting and to sustain lowered pressure between the action of nitroglycerin and veratrum viride, an intermediate is necessary.

To this end, sodium nitrite is used. This drug is also a vasodilator and affords sustaining relief until the long range action of chemically standardized veratrum viride becomes effective.

Importance of Sedation

Nearly all cases of hypertension require sedation for allaying periods of anxiety and affording the patient a good night's rest. Mild sedation is often useful, especially in cases associated with chronic coronary insufficiency.[5] It is well known that excitement may induce anginal attacks and in such cases, phenobarbital, because of its prolonged action, should be used.

All of these drugs, chemically standardized veratrum viride, nitroglycerin, sodium nitrite, and phenobarbital are to be found in Capsules RAY-TROTE IMPROVED, prepared by the Raymer Pharmacal Company of Philadelphia, Pa. Each capsule contains

Phenobarbital	15 mg.
Sodium Nitrite	30 mg.
Nitroglycerin	0.25 mg.

With the equivalent of Veratrum Viride Tincture 4 minims (containing 0.1% alkaloids)

RAY-TROTE IMPROVED is effective in dosages of one capsule every three hours. It is contraindicated when renal insufficiency is present, or if pulse becomes abnormally slow following treatment.

For the 30% of hypertensive patients with capillary fault, the above formula, with 20 mg. of Rutin added, is available in RAY-TROTE with Rutin.

Bibliography

1. Sollmann: A Manual of Pharmacology, W. B. Saunders Co. (1942).
2. Willson & Smith: J. Pharmacol., 79:208 (1943).
3. Hite: Ill. M. J., 90:336 (1946).
4. Freis & Stanton: Am. Heart J., 36:723 (1948).
5. Falk: South. M. J., 40:501 (1947).

Send for a liberal clinical supply of RAY-TROTE IMPROVED Capsules and descriptive literature today to Raymer Pharmacal Company, N.E. Cor. Jasper and Willard Streets, Philadelphia 34, Pa.

(Advertisement)

California MEDICINE

OFFICIAL JOURNAL OF THE CALIFORNIA MEDICAL ASSOCIATION
© 1951, by the California Medical Association

VOL. 74 APRIL 1951 No. 4

Western Equine and St. Louis Encephalomyelitis

The Distribution and Histological Nature of Central Nervous System Lesions

KNOX H. FINLEY, M.D., *San Francisco*, and ARTHUR C. HOLLISTER, M.D., *Berkeley*

SUMMARY

In a clinical review of 50 cases of western equine and 16 cases of St. Louis encephalomyelitis in humans it was noted that fever, headache, lethargy, drowsiness, tremor and stiffness of the neck were the most frequent signs or symptoms initiating the illness. The great majority of patients recovered without residual effect.

These two diseases of the central nervous system can only be differentiated on an immunological basis but may be suspected during seasonal periods in geographical areas where these virus infections are known to exist.

Neuropathological studies were done in four cases of human western equine and two cases of St. Louis encephalomyelitis. The primary point of attack by the virus is the cell body, the lesions being concentrated in the striate body, diencephalon, the brain stem and cerebellum. All histo-anatomical findings (nerve cell destruction, microglial nests, small isolated and confluent areas of necrosis and perivascular round cell infiltration) are secondary to the injury of the nerve cell body caused by the neurotropic virus.

BECAUSE of the epidemic potentialities of western equine and St. Louis types of the arthropod-borne viral encephalomyelitides occurring in humans and horses in the Central Valley of California, the State Department of Public Health established an Encephalitis Study Unit which has been carrying on its investigations for the past five years. Much of the original epidemiological investigation was pioneered by Meyer[5] and Howitt,[4] and in recent years has been extended by Hammon and his co-workers.[3]

The epidemiological data of the Study Unit upon which these neuropathologic findings are based indicate that the viruses of western equine and St. Louis types, while occurring predominantly in the Central Valley, are not restricted to it. Mosquito studies have demonstrated that C. tarsalis appears to be the primary vector for western equine encephalomyelitis. Correlation of immunologically proven cases of western equine (horse) encephalomyelitis, western equine human encephalomyelitis and human St. Louis encephalomyelitis with the presence of the viruses in mosquito pools in the months of June through September has been noted. The presence of the viruses in mosquito pools occurred most frequently during the early summer. Western equine encephalomyelitis in horses occurred more frequently in midsummer. Proven human western cases first appeared in early summer, while the first human St. Louis cases did not appear until later in summer. The human western equine cases were most frequent during the late summer, while the human St. Louis cases predominated in the early fall months.

Presented before the Section on Psychiatry and Neurology at the 79th Annual Session of the California Medical Association, April 30-May 3, 1950, San Diego.

The present study is a combined undertaking of the Encephalitis Study Unit of the California State Department of Public Health and the Division of Neuropsychiatry, Department of Medicine, and Laboratory of Neuropathology, Department of Pathology, of Stanford University Medical School.

Fifty proven human cases of western equine and 16 of St. Louis encephalomyelitis occurring in 1947 and established by the Virus and Rickettsial Disease Laboratory of the State Health Department are the basis for the following brief and epidemiologic clinical data. A proved case is defined as one in which, in paired specimens of blood, there is significant rise in antibody titer between acute and convalescent specimens, or in which there is isolation and identification of the virus from the brain.* Although a few of the patients at the time of the onset of illness were in the mountains surrounding the valley or in the coastal cities, all of them, without exception, had recently been in the Central Valley where the virus and its vector were known to exist. The age distribution was from six months to 60 years, the cases being fairly uniformly distributed through this age range for both types of virus infection. In children, the incidence was about equal in both sexes, but in adults it was higher in males.

Fever, headache, lethargy, drowsiness and stiffness of the neck were the five most frequent signs or symptoms at the onset or during the first three days of illness. Tremors, particularly of the hands, were present in one-third of the adult patients. Convulsions were more common in children. The great majority of the patients recovered and returned to their duties within a week to ten days after the onset of the illness. Five had neurologic residual effects when examined approximately one year later. Eight of the patients died, six from western equine and two from St. Louis encephalomyelitis.

Following is a description of characteristic onset of either human equine or St. Louis encephalomyelitis:

The adult patient first complains of headache. This is followed within a day or two by the complaint of fever and a tight or stiff sensation in the back of the neck. Within the first five days, either the patient himself will note drowsiness or some member of the family will call attention to it. Involuntary tremor of the hands is significant (although it occurred in only one-third of the cases in the present series). In children, headache, fever and listlessness are preceded by restlessness and irritability. The clinical onset is therefore clearly nonspecific but suggestive in recognized geographical areas in seasons when the infection is known to exist.

The spinal fluid contains an abnormally high number of cells, predominantly lymphocytes. (In the present series the total count was usually less than 100 cells per cu. mm.) The total protein content usually is normal or only slightly to moderately elevated, and the sugar and chloride contents normal.

Clinically, human western equine cannot be differentiated from St. Louis encephalomyelitis. The *onset* of the disease may be difficult to differentiate from the *onset* of poliomyelitis.

*The reader interested in further detail on method is referred to "Diagnostic Procedures for Virus and Rickettsial Diseases," First Edition, 1948, Publication Office, American Public Health Association, 1790 Broadway, N.Y.C.

The preceding description, a composite of experience in the 66 cases observed in the present study, is not greatly different from previous reports in the literature. There are excellent reviews of clinical findings, differential diagnostic considerations and various aspects of the epidemiology of these infections currently available in the literature.[1, 2, 3, 7] Further and more detailed elaboration and analysis of data collected by the Study Unit are to be published.

The following neuropathological observations were made in study of the brain and upper cervical spinal cord (more caudad levels of the cord were not available) in four cases of human western equine and two of St. Louis encephalomyelitis. In these cases the patients died in from three days to three weeks of the onset of illness.

In every instance, the primary point of attack was the neuron cell body, either by single organisms or by groups of them (Figure 1). The lesions were dis-

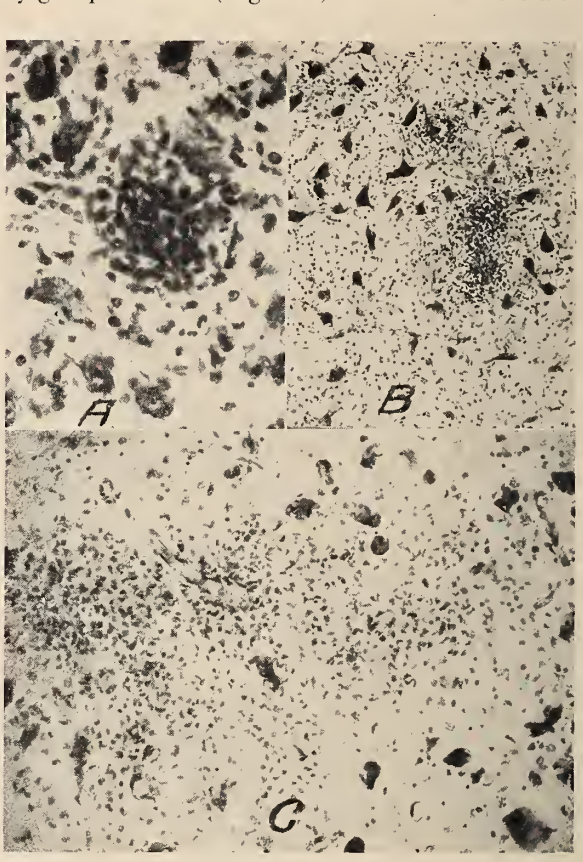


Figure 1.—*A*—A nest of reacting cellular elements, mostly reacting microglial cells to a single injured neuron of the dentate nucleus. A few polymorphonuclear leukocytes can be made out in this young "nest" of reacting cellular elements.

B—*Above:* A "nest" of predominantly reacting microglial elements to a single neuron, a part of which can be made out in the center of the "nest." *Below:* A confluence of two glial "nests" in reaction to two or more neurons in one of the nuclei of the thalamus.

C—A confluence of several glial "nests." The absence of several neurons is clearly illustrated. The reacting glial elements may likewise be seen to be breaking down and dispersing, a later stage than the "nests" observed in *'A'* and *'B'*. Region: Thalamus.

This and the following histologic microphotographs from Nissl-stained preparations.

tributed throughout the central nervous system, but were primarily in the thalamus, striate body nuclei, pontine nuclei and Purkinje cell and molecular cell layers of the cerebellar cortex (Figure 2). Ganglion cells were involved in sparsely scattered but different regions and layers of the cerebral cortex (Figure 3). Scattered ganglion cells were involved in the inferior olives, dentate nuclei, nuclei of the tegmentum of the brain stem and lateral and dorsal horns of the cervical spinal cord. The reacting cellular response to neuronal injury consisted of a proliferation primarily of microglia forming "nests" of

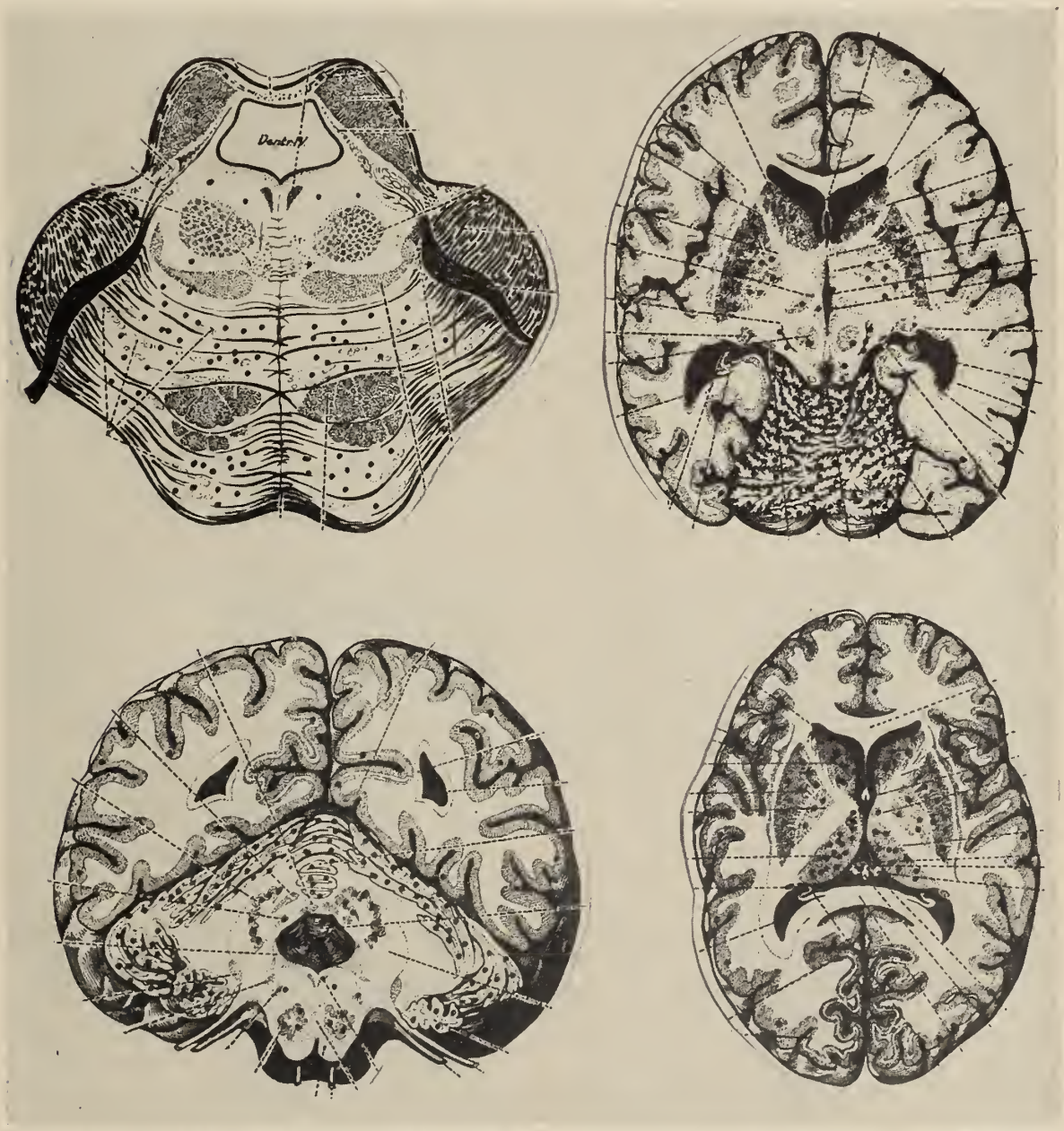


Figure 2.—A diagrammatic summary of the dots illustrating the distribution of lesions in the cerebral hemispheres, brain stem and cerebellum from this study of four cases of human western equine and two cases of human St. Louis encephalomyelitis.

Upper left: Section through the pons, showing distribution of lesions predominantly in the pontine nuclei with some few scattered lesions in the tegmentum.

Upper right: Horizontal section through the lower level of the basal nuclei and the cerebrum showing the lesions to lie predominantly in the caudate, putamen, globus pallidus and cerebellar cortex with more sparsely scattered lesions in the cerebral cortex.

Lower left: Frontal section through the occipital-parietal cerebral cortex, cerebellum and medulla oblongata showing a predominance of lesions in the cerebellar cortex, dentate and olivary nuclei with sparsely scattered lesions in the parietal occipital cerebral cortex and reticular region of the medulla oblongata.

Lower right: Horizontal section of the cerebral hemispheres through the upper level of the upper levels of the caudate, putamen and thalamus, illustrating a predominance of lesions in these structures with again sparsely scattered lesions in all parts of the cerebral cortex.

varying sizes and densities depending upon the number of ganglion cells involved and the age of the lesion (Figure 1). A scattering of neutrophilic leukocytes was commonly present in the younger-appearing microglial "nests." In the molecular layer of the cerebellar cortex large glial "nests" appeared about the elaborate branching dendrites of damaged Purkinje cells (Figure 4). The complete destruction of Purkinje cells in widespread regions of the cerebellum without reacting cellular response was dramatic in the material from two cases (Figure 5). Occasional microglial "nests" were found in the subcortical white matter of both cerebrum and cerebellum. A characteristic lesion was a sharply demarcated spongy amorphous lesion usually larger than the microglial "nests" (Figure 6, *C*). The fact that these amorphous spongy lesions were encountered where "nests" of microglia appeared to be undergoing necrosis from the periphery toward the center suggested that such lesions were the end result of this necrotic process (Figure 6, *A*, *B*, *C*). Infiltration of the perivascular spaces by mononuclear cells, mostly lymphocytes, near or in the vicinity of the lesions, was a common but variable finding (Figure 6, *C*). Such infiltration was less pronounced in those cases in which the patient died during the first few days of illness. A rare finding was a "ring" capillary hemorrhage. Only one such lesion was observed in each of two of the six cases. Changes within the blood vessel walls, endothelial proliferation, and vascular occlusion were not encountered.

The neuropathological findings described are in agreement with some but not all previous reports in the literature.[1, 2, 7] In general they resemble the neurohistopathological findings for eastern equine encephalomyelitis if one compares similar acute stages.[1, 7] However, in the authors' opinion the neuropathological literature has not stressed that the neuron cell body is the initial and primary parenchymal element injured by the specific arthropod-borne virus. All other histopathological findings are secondary to and symptomatic of the injured neuron cell body. The variability of the neurohistopathological findings from case to case is to be explained by (1) the fulminating character of virus infection, (2) defense mechanism of the body and (3) stage of infection (i.e., acute or chronic). These factors have far more influence in

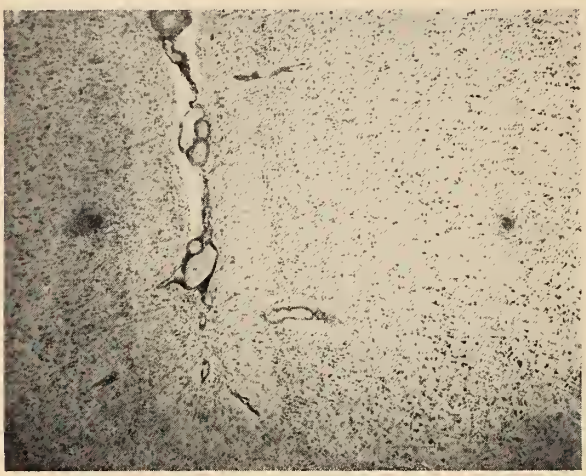


Figure 3.—Two "nests" of reacting cellular elements, mostly microglia, to one or more injured neurons of the cerebral cortex. On the left the "nest" lies in the second cortical layer and on the right in the fourth granular near the fifth pyramidal cortical layer.

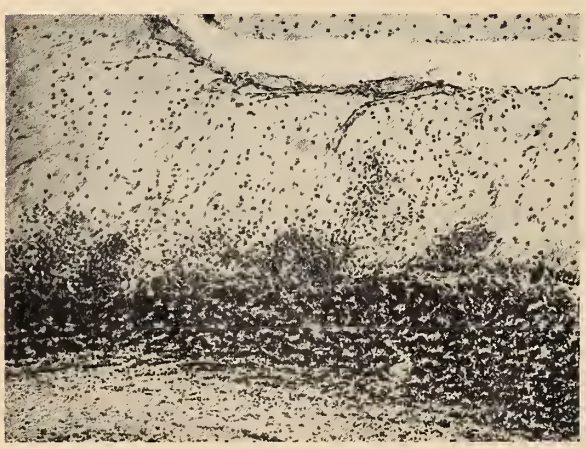


Figure 4.—Irregular groups and branches of reacting microglial elements in the region of destroyed Purkinje cells and extending into the molecular layer along the course of the branching dendrites of the injured Purkinje neuron bodies.

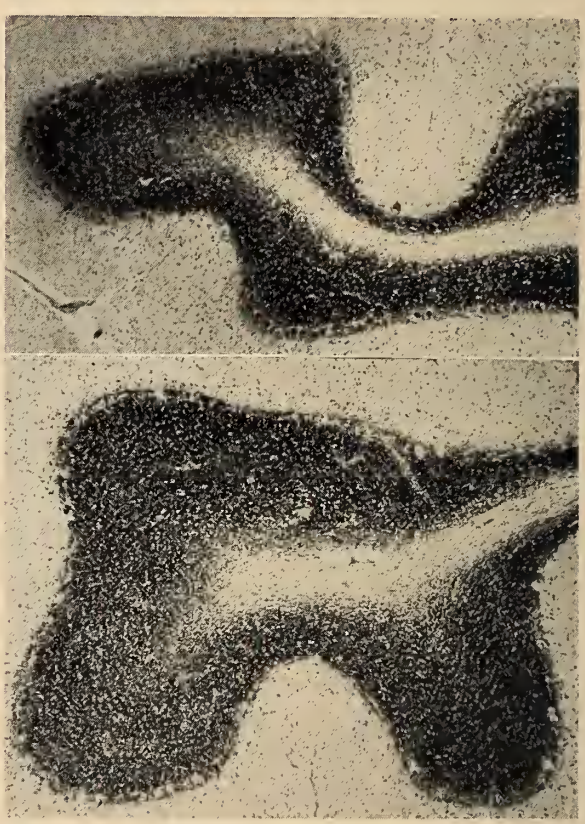


Figure 5.—*Above:* Normal Purkinje cell distribution in the normal human cerebellar cortex. *Below:* Absence of Purkinje cells with little or no reacting cellular elements from the cerebellar cortex of an acute and fatal case of human western equine encephalomyelitis.

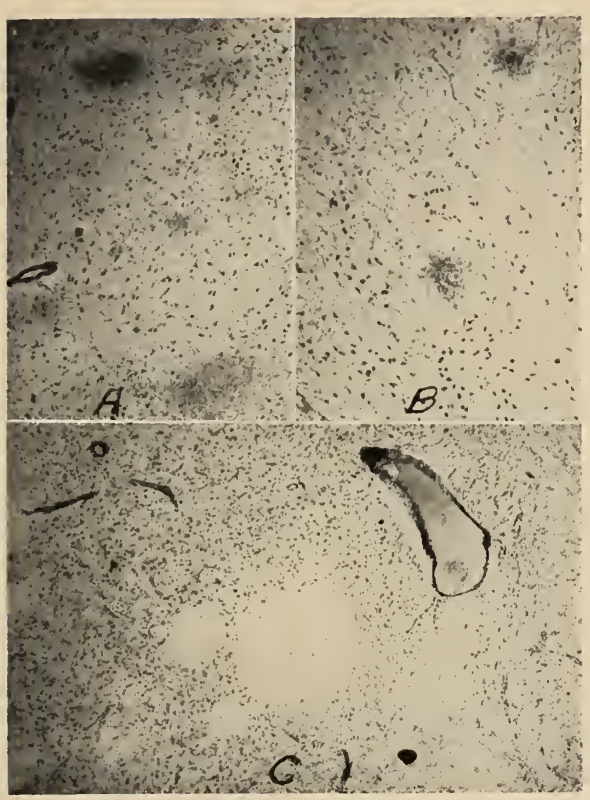


Figure 6.—*A*—Numerous ill-defined and dispersing remains of reacting microglial "nests."

B—Two, probably, still older microglial "nests" with an amorphous pale halo around their periphery.

C—Pale, sharply outlined, amorphous, spongy lesions, interpreted as a late stage of what was originally an active reacting glial "nest." It may be seen how a confluence of several of these individual amorphous lesions could produce a much larger region of necrosis. In the upper right hand corner of *C* lies a vein with a collar of lymphocytes in the periadventitial space.

determining the character and distribution of the pathologic changes within the central nervous system than has the type of arthropod virus (i.e., St. Louis, western or probably any of the other types, as eastern or Japanese B). The anatomical changes observed in the cases here reported upon were strikingly similar to those reported by Zimmerman[8] in Japanese B encephalomyelitis. Calcium deposition in the brain parenchyma and blood vessel walls, such as was noted by Zimmerman at postmortem examination of patients who died after comparatively long illness, was not observed in the six autopsies in the present series. Since none of the six patients lived beyond the third week of illness, the absence of calcium deposition supports Zimmerman's conclusion that calcium deposition is related to later degenerative and regressive changes.

Noran and Baker[5] have excellently described gross and microscopic observations in a case of western equine encephalomyelitis in which the patient died three and a half years after the onset of the acute illness. They expressed the opinion that the parenchymal damage was due to anoxemia from primary vascular disease and occlusion. However, in the examinations in the present series the primary damage was observed to be to the ganglion cell, while the vascular changes were non-existent except for perivascular cuffing which is a subacute reaction to any parenchymal damage. The confluence of the necrotic amorphous spongy lesions in the later stage could explain the cystic and vascular changes observed by Noran and Baker. Calcium deposition in damaged parenchyma and related blood vessels, as reported by Noran and Baker and by Zimmerman, is a recognized late and chronic regressive chemical change in any part of the body, regardless of the primary disease.

The neuropathological characteristics which are most compatible with, although not necessarily limited to, western equine and St. Louis encephalomyelitis (and probably also the other arthropod neurotropic viral infections) are: (1) Primary injury to the cell body of the neuron by the virus, (2) the tendency for the distribution of the lesions to occur throughout the central nervous system but to be concentrated in the striate body, thalamic nuclei, pontine nuclei, Purkinje and molecular cell layers of the cerebellum, (3) the striking vulnerability of the Purkinje cells, and (4) the subacute, later-developing circumscribed amorphous spongy lesions from a necrotizing process of the earlier single and confluent glial "nests."

450 Sutter Street.

REFERENCES

1. Baker, A. B., Noran, H. H.: Western variety of equine encephalitis in man, Arch. N. & P., 47:565, April 1942.

2. Farber, S., et al.: Encephalitis in infants and children caused by virus of the eastern variety of equine encephalitis, J.A.M.A., 114:1725, May 4, 1940.

3. Hammond, W. McD.: The arthropod-borne virus encephalitides, Am. Jour. Tropical Med., 28:515-525, July 1948.

4. Howitt, B.: Recovery of the virus of equine encephalomyelitis from the brain of a child, Science, 88:455-56, Nov. 11, 1938.

5. Meyer, K. F.: A summary of recent studies on equine encephalomyelitis, Am. Inter. Med., 6:645, Nov. 1932.

6. Noran, H. H., and Baker, A. B.: Sequelae of equine encephalomyelitis, Arch. Neurol. & Psychiat., 49:398-413, March 1943.

7. The Oxford Medicine, Oxford Univ. Press, VI, 82(43)-82(69).

8. Zimmerman, H. N.: The pathology of Japanese B encephalitis, Amer. Jour. Path., 22:965-991, Sept. 1946.

The Problem of the Poor Reader

Arthur Jampolsky, M.D., *San Francisco*

SUMMARY

Children who are retarded readers may present a complex problem involving physical impediments, emotional distress, or teaching methods. A child with specific *reading disability has spatial confusion, an exaggeration or persistence of a normal childhood tendency to reversal of letters and symbols, ambidexterity, normal intelligence, and poor visual recall of words. Children with these characteristics fail to learn to read in a teaching system in which the main emphasis is on visual associations. Treatment of such reading difficulties, as well as prophylactic measures, is outlined.*

POOR readers are a problem not only for the ophthalmologist, but also for the pediatrician, psychiatrist, otolaryngologist and educator, because the disability may concern the eyes, the ears, a personality disorder or a teaching method. The ophthalmologist is frequently consulted to investigate children who have great difficulty in learning to read during the first few years of school. When this is the chief presenting complaint, it is only occasionally that a specific ocular condition is found as the main cause of the lack of progress in reading. Many children are referred to the ophthalmologist by the teacher or parents for vague visual reasons, and only specific questioning establishes the true difficulty as a reading disability. "How does the child do in reading and spelling as compared with other subjects?" should be a specific question put to the parents by the ophthalmologist in order to establish whether or not the reading skill is disproportionately retarded.

"Reading disability" is the term usually applied if the child is disproportionately retarded in reading. This is often associated with poor writing and spelling while other skills such as arithmetic may be normal or better. This self-explanatory term is preferred to others such as alexia, word blindness, strephosymbolia, visual agnosia and others which have been used to describe one or another aspect of the broad problem. Such terms as left-handed reversals, or mirror reading and writing, describe only one type and serve to confuse by wrongly implying that all poor readers have reversal tendencies in reading or writing or have some degree of ambidexterity. For clinical purposes poor readers may be classified into two groups, those who have *specific* reading disability and those in whom the disability is *nonspecific:*

1. *Specific* reading disability is caused by a confusion in the recognition of language symbols. It is usually associated with ambidexterity, comparative clumsiness, and an exaggeration and persistence of the normal childhood tendency to reversal of letters and symbols. This specific reading disability frequently goes unrecognized, and children who have such a shortcoming are liable to more severe trauma than are children with other kinds of reading disabilities. However, they are only a part of a large group of poor readers who should be differentiated from those who have *nonspecific* reading disabilities.

2. *Nonspecific* reading disability: For children in this group the lack of progress in learning to read may be due to low intelligence, lack of interest, insufficient readiness to read, ocular abnormalities, hearing defects, emotional problems in the school or home, and other obstacles to learning.

Since reading is such an important tool in the learning process, inability to master it may lead to a complexity of secondary conditions such as stuttering and emotional behavior problems. The mixed picture that may develop within a few years makes it difficult to untangle cause and effect. The resulting emotional problems, speech defects and blocked learning processes may be by-products of an original specific reading disability, and these by-products may assume greater importance than the original handicap. On the other hand, these factors may be the cause of retarded reading ability. It frequently requires the teamwork of an ophthalmologist, pediatrician, child psychiatrist, child psychologist, otolaryngologist and educator to make proper evaluation in a given case.

It is therefore important to be able to recognize *specific* reading disability. If a child *is* found to have a specific reading disability, then more direct attention may be focused on the reading problem and alternative methods of teaching him may be used in order to supply him with the necessary tools to become a good reader. Even here, the by-product of emotional problems that may arise because of repeated failures of the normally intelligent child to learn reading may merit special attention. A more direct attack, however, on the reading disability may be made with expectation of success in the cases of specific reading disability. If, on the other hand, the child is found *not* to have a specific reading disability, then the investigating consultants must determine which of the factors previously mentioned require attention and the relative importance of each factor. In cases of nonspecific reading dis-

From the Division of Ophthalmology, Department of Surgery, Stanford University School of Medicine.

ability the emphasis should be placed on an investigation of the emotional or physical obstacles; the problem is primarily in the domain of the child psychiatrist and pediatrician rather than in that of the remedial reading teacher. Concomitant treatment of both problems is often necessary, and usually the success achieved is not as striking as it is in treatment of specific disability.

What are the characteristics of a specific reading disability? It is more common among boys than girls. There is a high incidence of left-handedness or ambidexterity, with a confusion between right and left, with an exaggeration and persistence of the normal childhood tendency to reversal of letters and symbols. This so-called "spatial confusion" causes the child to confuse *p* and *q*, *d* and *b*, etc. Short words tend to be reversed (*was* for *saw*, *on* for *no*) or confused (as *dog* and *boy*, *stop* and *tops*). Many beginners normally have such tendencies but outgrow them once they establish correct left-to-right sequences. Children with spatial confusion are not able to straighten this out; although of normal or high intelligence they have a very poor visual recall of words and are considerably impeded in the ability to read. There may be any degree of this situation, the most pronounced being mirror reading and writing.

Causes. The most common cause of a specific reading disability is the unfortunate application of a method of teaching wherein almost the entire emphasis is on visual recall to children who happen to have a specific deficiency in that task. These children with exaggerated spatial confusion and poor visual recall are especial victims of the "flash" method of teaching reading evolved by psychologists. By this method, almost the entire emphasis is on visual association. With this method, whole words may be "flashed" for the child to learn, sometimes with pictorial associations. It was found that for most children phrases and even short sentences could be learned as quickly as words, so these are flashed, with emphasis on the visual memory. The alphabet is more or less ignored. The educational emphasis is on speed and "learning by looking." This system works well for the majority of children, but for a child with spatial confusion and poor visual recall, it is catastrophic. He simply cannot learn by this method alone in spite of intelligence, effort and persuasion. This block may well be the cornerstone in the development of subsequent personality and speech disorders.

The neurological basis of a specific reading disability is for the most part unknown. Orton expressed the belief that the two cerebral hemispheres receive mirror images and that one becomes dominant: If the right cerebral hemisphere is dominant, the individual becomes left-handed, and early confusion in a right-handed world leads to a mixed dominance and exaggerated reversals. Cases have been reported of acquired disabilities with lesions of the dominant angular gyrus. It is probable that these are merely cases of unusual association of perceptual and motor skills as a sex-linked characteristic in left-handed or ambidextrous children.

Diagnosis. A presumptive clinical diagnosis of a specific reading disability may be made by noting a disproportionate inability to read, write or spell in otherwise intelligent children who are left-handed or ambidextrous and who confuse or reverse short words such as *was* and *saw*, *on* and *no*, *now* and *how*, *who* and *how*, *very* and *every*, and *ate* and *eat*, when asked to write or read such a list. Further tests may then be made to establish the exact nature of the specific reading disability. Most reading aptitude tests now in existence establish only that the child is a retarded reader, but do not truly differentiate the factors of spatial confusion, comprehension, vocabulary problems, "word reading," etc. Tests to help in making the distinctions are now being devised by the Reading Clinic at the Stanford University School of Medicine.

Treatment. Treatment should logically be directed at furnishing these children with alternative methods of learning to read. This may be done by reinforcing the visual method with phonetic, kinesthetic and auditory cues. In other words, the child needs to hear the word as well as see it, to break it up into parts and say it, and to feel it by writing it. Reliance should not be placed on just one of these cues, such as Orton's phonetics or Fernald's kinesthetics. A more eclectic approach to discover any suitable combination of methods in a given case should be used. The therapist may start at some level of phonetics, adapt it to the child so that he may break up the word into sounds. The child then says the word as he traces it, then writes it from memory and uses it in a composition. Soon the word may be pronounced properly by sight with mental tracing and phonetics. If the child can now mentally "say it," he can write it and then use it. Soon he, too, can learn words by sight, utilizing his own methods and reinforcing the visual cues. Comprehension and exactness are emphasized, with speed being added later. The child will thus develop strong associations for seeing, reading, writing, spelling and speaking.

Children who have been retarded readers for some time in the present teaching system in schools present complex problems and should be examined by an investigative team. In some cases it is unwise to treat a reading disability alone without proper knowledge of the other obstacles. A therapist must not permit discovery of a poor reading situation (even though it is caused by a specific disability) to obscure a more important family emotional problem. If the child manifests some easily determined characteristics of the specific disability, then more direct attention may be focused on the reading problem, although proper evaluation of the emotional problems must be made. In some cases, sole attention may be directed at the reading disability. In others, concomitant treatment of the reading disability and the emotional problems should be insti-

tuted. In some cases, the by-product of the psychiatric problems may assume primary importance. It should be emphasized that this discussion concerns principally the specific reading disability, and that in cases of the nonspecific disability outlined previously, the treatment is usually not directed solely at the reading problem.

Early recognition of difficulty in learning to read under the present system of teaching is important. Children who persist in exaggerated confusion by reading *boy* for *dog* or *God*, or who pronounce any of those words thoroughly garbled as *odg*, should be grouped together for an alternative method of teaching, incorporating phonetic and kinesthetic as well as visual cues. Furnishing the child with some tool by which he may learn to read at this stage may obviate many of the difficulties that may arise if the disability is overlooked. Children still unable to learn by supplementing phonetics and kinesthetics should be examined by people capable of evaluating intelligence quotient, visual and hearing handicaps, and emotional problems.

Prophylaxis. Prophylactic measures may be carried out in the field of reading problems in purest and simplest form by combining phonetic, kinesthetic and visual methods in the teaching of reading skills. Some children learn to read with very little instruction. "If a single method of learning is forced upon a group of individuals, the result will be that some of them will fail." If in the teaching of reading skills the child is offered several tools by which he may learn, he will select those best suited to his own capabilities. A teacher might combine the learning of the alphabet with the sounds of the letters and simple syllables, then add letter combinations in conjunction with words that are spoken, written and used. The child who has a specific reading disability will then be able to utilize his own system in learning these skills, although perhaps more slowly. Children who learn best by visual cues alone will also have alternative tools with which to master longer, unknown words. With the older, and unfortunately somewhat outmoded, methods of learning to read, the strong association between phonetics and kinesthetics made for an initial impediment in facility for silent reading or rapid comprehension. But this impediment is by no means insurmountable, as most persons so taught have found. A person with a specific reading disability learns to read better with the older combined methods of teaching.

For the present, there is no question that the majority of children learn faster and more easily by the visual flash method. But since there is a significantly higher incidence of the specific reading disability casualty by this method alone, other methods must be incorporated. Certainly the teacher should not, as is done in certain school systems, intensify the flash system when a child learns poorly by it. This is an example of "redoubling the effort when we have forgotten the aim." The aim is to teach children to read, not to confirm a particular system—to make it easier for all children to learn to read and to remove all possible obstacles as long as it is practical to do so. Many large cities have well organized remedial reading centers. Not many can boast of a logical educational program for the teaching of reading skills to avoid the pitfalls that make remedial reading centers necessary.

2400 Clay Street.

Hemorrhage of Late Pregnancy

R. Gordon Douglas, M.D., Robert Landesman, M.D., and John T. Cole, M.D., *New York*

SUMMARY

Rupture of the uterus, cesarean section and uterine atony were the major causes of maternal death associated with hemorrhage of late pregnancy for the five years 1945 to 1949 in New York County. Shock occurred earliest in rupture of the uterus and cesarean section, while in uterine atony there was some delay before shock was evident. Placenta previa was preceded by an initial small hemorrhage, and the time interval before shock was relatively long. It appeared that in cases of retained placenta, manual removal of the organ and hysterectomy were unduly delayed. Ten per cent of the maternal deaths reviewed were associated with severe transfusion reactions. Early recognition of a serious situation, rapid blood replacement and hysterectomy might have salvaged most of the patients.

A MATERNAL death rate of considerably less than one per thousand was anticipated in the United States for the year 1950.[2] Many improvements and advances in the care of pregnant women have contributed to the reduced mortality rate. This represents the first time in medical history that a large country has been able to surpass the theoretical minimum. Not only should this low rate be maintained but such results should stimulate increased effort in this direction.

A study of the maternal mortality for New York City with its heterogeneous population shows that the major causes of death remain infection, toxemia and hemorrhage. In contrast to the pronounced decrease in deaths (Chart 1) due to puerperal infection, there has been relatively little change in the number of deaths due to toxemia and hemorrhage. Indeed, it appears that hemorrhage[3] outranks all other single causes of maternal deaths in the United States today. The work of several maternal welfare committees indicates that probably more than 75 per cent of hemorrhagic deaths are preventable. Therefore, in order to further reduce maternal mortality, the prevention, control and treatment of hemorrhage must be improved.

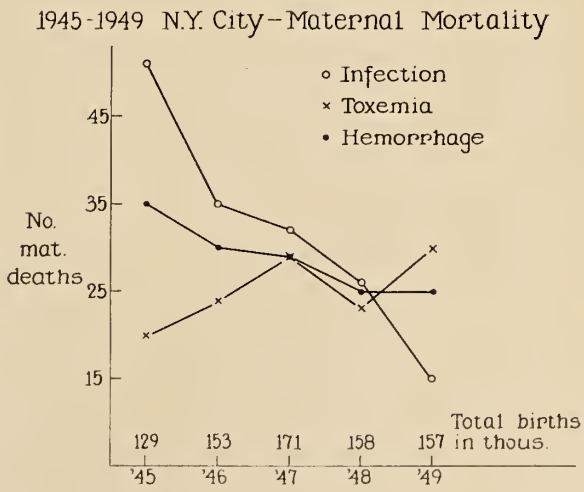
It occurred to the authors that a detailed study of maternal deaths resulting from hemorrhage might provide valuable and useful information pertaining to etiologic factors and problems in management. Obviously, the data subjected to analysis should be of recent origin when all of the present therapeutic armamentaria were available. No single institution has accumulated a sufficiently large clinical experience of this kind during the past five years. Accordingly, reports of 50 cases in which maternal death was associated with late obstetric hemorrhage were taken from the files of the New York County (Borough of Manhattan) Maternal Welfare Committee. The deaths occurred in the five-year period 1945-49. The Maternal Welfare Committee collected detailed information from the physicians and hospitals concerned. It is the purpose of this report to analyze the chief cause of hemorrhage, the time of shock, the amount and speed of blood replacement, and any other treatment. In addition a summary will be given of the plan to combat hemorrhage in operation at The New York Lying-In Hospital. The results obtained during the same period will be cited. Recommendations will be advanced in the light of this experience with the hope that other unfortunate circumstances may be avoided in the future.

The causes of maternal death from late hemorrhage in the cases reviewed are shown in Table 1.

UTERINE RUPTURE

In the 13 cases in which maternal death was associated with rupture of the uterus, nine of the infants were deadborn and four were living. There were six instances of disproportion of some degree which included hydrocephalus, difficulty with the aftercoming head and attempted version after attempt to deliver with forceps had failed. Two maternal deaths resulted from rupture at the site of previous uterine

CHART 1



From the Department of Obstetrics and Gynecology of the Cornell University Medical College and the New York Lying-In Hospital.

Guest speaker's address read before the second general meeting of the 79th Annual Session of the California Medical Association, April 30-May 3, 1950, San Diego.

TABLE 1.—*Causes of 50 Deaths from Hemorrhage, New York County, 1945-1949*

Rupture of uterus	13
Atony of uterus	12
Following cesarean section	8
Placenta previa	5
Trauma and retained placenta	6
Premature separation of placenta	4
Other	2
Total	50

scars. In two other instances the uterus apparently was ruptured during the process of manually removing the placenta. In one case, rupture occurred during induction of labor following the administration of Pitocin® intramuscularly. Rupture of the lateral wall of the uterus followed during the rapid labor and the birth of an 8-pound stillborn infant. The uterus was ruptured in another patient with placenta previa while internal podalic version was being carried out. In one case there was spontaneous rupture at term associated with the delivery of a well infant. Some brief comment with respect to the management of these patients with rupture of the uterus follows:

In three cases, the initial shock and hemorrhage were overcome, but secondary complicating factors (blood incompatibility, massive pulmonary atelectasis and peritonitis) resulted in death. Shock occurred extremely early and was often the first important clinical finding in conjunction with vaginal bleeding and abdominal pain. In eight cases, an hour or less elapsed before shock occurred. In one-half of the patients blood was not available until shock supervened. The blood loss was difficult to estimate but was thought to vary between 500 cc. and 3,000 cc. It is probable that in most instances the actual loss was considerably in excess of these figures. Blood replacement was carried out in nine cases: 2,000 cc. was given in two instances, 1,500 cc. in three, and 500 cc. in four. In two cases the uterus was packed without recognition that rupture had occurred, and in three cases hysterectomy was done as a last desperate measure with the patient in profound shock. It is apparent from these data that in most instances complicating factors which should have dictated preparations for transfusion were present. It is particularly striking that of the 15 patients with hemorrhage and shock, four were given only 500 cc. of blood and four were given no real supportive treatment.

UTERINE ATONY

In the 12 cases of postpartum uterine atony, all infants but one were born alive. The highest parity in this group was four. The pregnancies and deliveries were uncomplicated and there was nothing unusual in previous obstetrical histories. (In striking contrast, in the other cases detailed in Table 1 the complications were recognized and an opportunity provided for consultation and expert care.) In the cases of uterine atony the average blood loss was estimated to be 2,500 cc. and the replacement was only 750 cc. In one instance, blood was administered 15 minutes after the onset of hemorrhage. However, the total amount given was only 1,000 cc. (total loss 3,000 cc.) and the patient died in three hours. On the average, however, blood replacement was not started until 1½ hours after the onset of hemorrhage. The largest amount of blood received was 4,000 cc. Two patients received no blood. In five instances, the uterus was packed with gauze—in four cases within 20 minutes and in one after three hours. At no time did the packing even temporarily appear to control the bleeding. In two cases, hysterectomy was performed late with the patients in poor condition. Hysterectomy was contemplated in the remainder but was not carried out because of inadequate blood supplies and deep shock. The average time factors in postpartum uterine atony indicated that shock occurred within two hours and death about one hour later (Chart 3).

CESAREAN SECTION

Eight maternal deaths were directly associated with cesarean section. In this group, seven infants were well and one died of hydrocephalus. In four cases the operation was an uncomplicated elective repeat procedure, while in three instances it was associated with labor and disproportion. In one case the operation was done because of history of adherent placenta in a previous pregnancy. A severe puerperal infection developed in one case and on the 32nd postpartum day hemorrhage occurred. (In all calculations of average time, this case was excluded.) The average blood loss in the cases in which death occurred following cesarean section was estimated at 3,000 cc. It is of interest that in five cases, only one unit of blood was available, and on one occasion no blood could be obtained. In this group of six patients for whom there was not adequate blood for transfusion shock occurred in one hour and death in two hours. The remaining two patients received larger quantities of blood and death occurred after a longer interval. On two occasions hysterectomy was carried out immediately following cesarean section because of uncontrolled hemorrhage.

PLACENTA PREVIA

Four maternal deaths were associated with placenta previa. Three living infants were delivered by low flap section and one was delivered deadborn through the normal birth passages. In all cases, two episodes of bleeding could be distinguished. The first was mild and the second fatal. Adequate blood was available in only one instance, and then transfusion was not started until two hours after the onset of hemorrhage. In one case hysterectomy was carried out after shock had occurred. In two cases the uterus was packed in the course of cesarean section without effective hemostasis. The average interval before shock was four and one-half hours—adequate time for securing necessary blood supplies in most circumstances.

TRAUMA

Multiple attempts at high forceps delivery and failure to recognize traumatic injury and associated blood loss resulted in three maternal deaths. All infants were deadborn. Blood was not administered and no attempt at repair was made until after the development of deep shock. The absence of adequate supportive measures, especially blood transfusions, is particularly striking in this group.

RETAINED PLACENTA

In three instances the placenta could not be expressed following uncomplicated delivery, and several attempts (manual) were necessary before the complete removal of the placenta was accomplished. Blood was not made available for transfusion. In one instance, the uterus was packed while the placenta was in place. In another, inversion of the uterus was not adequately treated. Despite bleeding, shock and an average duration of five hours for the third stage of labor, hysterectomy was not done nor was blood given in any case.

PREMATURE SEPARATION

In two of the four cases in which death was associated with premature separation of the placenta, delivery was by the vaginal route. One patient died three days and the other nine days following transfusion reaction. In the other two instances, concealed hemorrhage occurred. Not until an hour after the onset of hemorrhage was blood available for transfusion, and then only one unit in each case. Cesarean section was done in both cases; shock occurred during the operation and in each case the patient died shortly after the completion of the procedure. Two of the four patients were found to have a classical Convelaire type of uterus. The average blood loss was estimated at 2,000 cc. The two patients who died after operation received one unit of blood each, while the two with transfusion reactions were given four units each. In the only case in which hysterectomy was done the bleeding was controlled but the patient died on the third day as a result of severe transfusion reaction.

Chart 2 shows data pertaining to the time and amount of blood administered correlated with the

CHART 2

1945-1949 N.Y. County – Blood Replaced

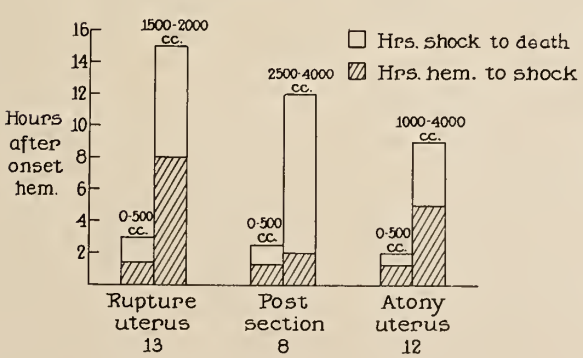
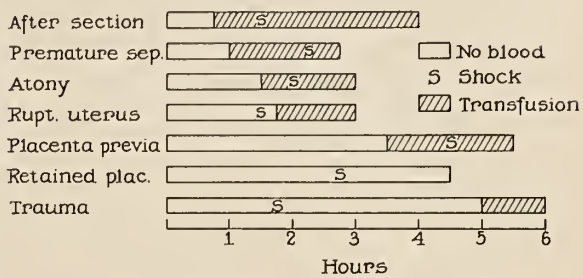


CHART 3

1945-1949 N.Y. County – Hemorrhagic Deaths



clinical course of the three major causes of hemorrhagic death. If no blood or only a single unit was available, shock intervened within one or two hours and death followed one hour later. If 1,000 to 4,000 cc. of blood was administered, shock occurred in from two to eight hours and death followed from five to ten hours later. In the cases in which such large volumes of blood were given, severe shock usually had been present too long and was irreversible; the blood served only to prolong life for a short time.

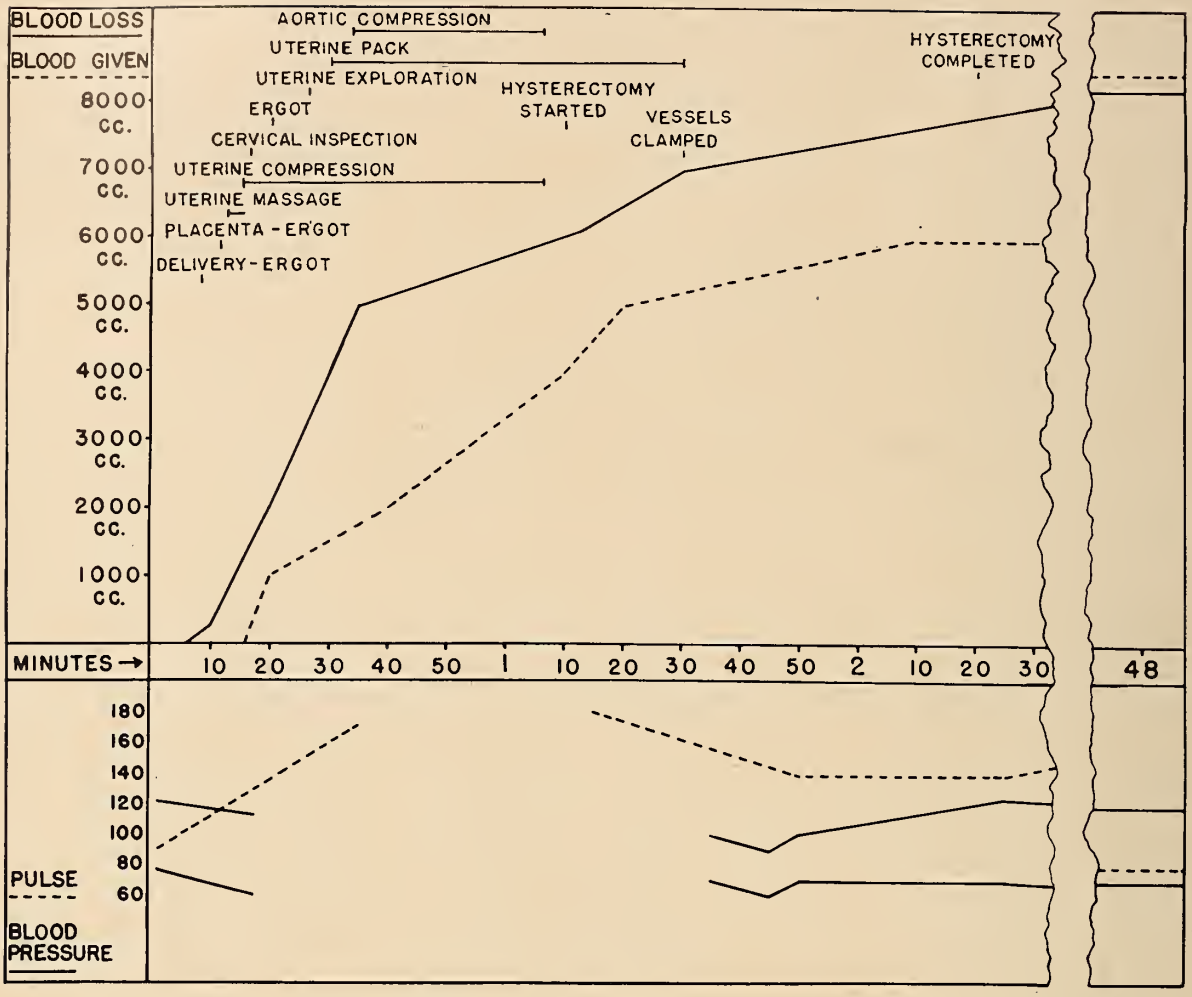
DISCUSSION

Chart 3 indicates the average time relationships between the onset of hemorrhage, shock, initial transfusion and death for each group previously discussed. In the cesarean section group one unit of blood was provided in every case, apparently because most operations are performed with at least one unit of blood available in the operating room. In those cases, moreover, in order that no time might be lost if blood should be needed, a needle for infusion was already in place in a vein in an extremity. The difficulty arose when no further blood could be obtained and shock occurred before additional supplies were available. Reliance upon a single unit of blood to combat hemorrhage complicating cesarean section was largely responsible for the deaths. The importance of careful observation for the first hour following operation is clearly demonstrated.

Shock occurred early in rupture of the uterus and in several instances it was the most significant initial clinical finding. The large loss of blood was often partially concealed in the broad ligament or in the peritoneal cavity. Prompt diagnosis and operation within the first hour after rupture with adequate blood transfusion and other supportive measures might well have averted disaster in all instances. With one exception, the patients had complications and difficulty in delivery which could have been predicted. In uterine atony, on the other hand, the hemorrhage could not be anticipated and bleeding did not start until the third stage of labor. Pregnancy and labor were usually normal.

The first abnormality in uterine atony consists of excessive loss of blood, and the cause usually can be determined by examining the fundus of the uterus. In these circumstances, it is essential for the well-being of the patient that procedures aimed

CHART 4



to control the hemorrhage and to replace the blood lost be performed rapidly. These measures should be carried out simultaneously (rather than in sequence as happened in so many of the cases here reviewed). Following is a report of severe unanticipated uterine atony to illustrate the appropriate and extreme measures often required.

CASE REPORT

The patient was a 36-year-old, para 2, gravida 2. The antepartum course was complicated by mild hypertensive disease. Two days after the expected date of confinement, the membranes ruptured spontaneously and labor ensued. Four and one-half hours later, at 2:25 a.m., the patient was delivered spontaneously of a full term, living child under local anesthesia. Two minutes later, the placenta was expressed spontaneously and intact. Profuse hemorrhage began immediately. The usual oxytocics and massage were of no avail. From two antecubital sites rapid, massive transfusion therapy was started within five minutes after the onset of hemorrhage. The cervix and uterus were both intact. A uterine pack did not lessen the bleeding. Combined uterine and aortic compression greatly reduced the rate of blood loss. It was felt that the problem was one of uncontrollable uterine atony and preparations were begun for hysterectomy. The patient's course and the therapy during the first critical hours are shown in Chart 4. It will be noted that the patient received almost nine units (550 cc. each) of citrated blood in the first hour following the initial hemorrhage. It was estimated that the total amount of blood lost was 8,200 cc., and during treatment 9,350 cc. of citrated whole blood was administered. The packed red cell volume dropped from a predelivery level of 38 per cent of the whole blood to a low of 28 per cent in the postpartum period. In addition there was a moderate depression of the calcium content of the blood. The patient had low grade, unexplained fever for one week. She was discharged as well on the 14th postpartum day.

The delayed onset of shock in placenta previa is striking as compared to the time interval in premature separation of the placenta (Chart 3). In placenta previa there was usually an initial short forewarning episode of bleeding which permitted time to make transfusion arrangements. In premature separation, shock was more rapid in onset, as in rupture of the uterus. The deaths from retained placenta and trauma during vaginal delivery all re-

sulted from errors in judgment and treatment in addition to the late and limited use of blood. When large quantities of blood are poured into the circulation, transfusion reactions are somewhat more likely to occur. Very often in these circumstances, the use of multiple types of blood becomes necessary, which further increases the chance of reaction. The importance of careful and rapid blood compatibility tests is illustrated by the fact that 10 per cent of the deaths were associated with the secondary complication of bilateral hemoglobin nephrosis. Adherence to accepted standard procedures would probably have eliminated these unfortunate results.

The analysis of these hemorrhagic disasters points out clearly some definite implications. In retrospect, the large majority of deaths appeared to be preventable. Failure to save the patient's life could be traced usually to poor appreciation of the seriousness of the situation, optimistic estimates of blood loss, reluctance or inability to begin transfusion therapy immediately, inadequate blood replacement, and late surgical intervention.

The efforts of the staff of The New York Lying-In Hospital to overcome the problem of hemorrhage have been described elsewhere in detail.[1] The preparations prior to and at the time of hemorrhage which have been used with very satisfactory results are as follows:

1. The blood group and the Rh factor are determined at the time of the first antepartum visit.

2. Blood is available in the operating or delivery room for midforceps delivery, cesarean section, manual removal of the placenta or other major obstetrical operation.

3. Hemorrhage may occur more frequently in other circumstances such as multiple pregnancy, excessive sized infants, vulval varicosities, myoma uteri, and deep anesthesia. Appropriate measures may be adopted according to the complication.

4. Although a large general blood bank may be available, an additional obstetric blood bank on the delivery floor, containing type O Rh negative blood treated with Witebsky[4] substance, is of inestimable value and makes possible the initiation of blood restoration in a matter of minutes.

5. Blood may be given rapidly under pressure (120 mm. of mercury) with large bore needles (No. 15).

6. A critical time factor after the onset of hemorrhage is important in massive obstetric hemorrhage. Studies indicate that rapid transfusion therapy must be commenced within minutes after massive hemorrhage if the patient's life is to be saved.

This outlines the policy which with minor variations, has been carried out since 1944. In 28,000 deliveries at the New York Lying-In Hospital from 1944 through 1949, only one private obstetrical patient died of hemorrhage, and there were no deaths from hemorrhage in 16,000 gynecologic operations.

530 East 70th Street.

REFERENCES

1. Cole, J. T.: Methods of treating massive obstetric hemorrhage, J.A.M.A., 135:142, Sept. 20, 1947.

2. Editorial: Maternal deaths—one in a thousand, J.A.M.A., 144:1096, Nov. 25, 1950.

3. Gordon, C. A.: Hemorrhage as the most important cause of maternal death in Brooklyn; analysis of puerperal deaths of 1943, Am. J. Obst. & Gynec., 48:557, Oct. 1944.

4. Witebsky, E., Klendshoj, N. C., and Swanson, P.: Preparation and transfusion of safe universal block, J.A.M.A., 116:2654, June 14, 1941.

A New Position for Cholecystography (Kirklin)

JOHN J. WELLS, M.D., *San Diego*

ROENTGENOLOGISTS are well aware that slight changes in the roentgenographic position may result in improved cholecystograms. In the usual position, the gallbladder may be obscured by (1) the spinal column because of the close proximity of the gallbladder to the spinal column, especially in slender persons, and (2) gas in loops of the intestine overlying the gallbladder. Not only are these problems solved but additional information is obtainable by placing the patient in the right lateral decubitus position and taking posterior-anterior views of the gallbladder as advocated by Kirklin.[1]

In addition to the usual equipment for cholecystography, a plain high table is used on which the patient lies in a true right lateral position with the abdomen against the x-ray table. The patient is immobilized in this position with a canvas band (Figure 1). The advantages of this position are:

1. The gallbladder tends to gravitate to the patient's right side, away from the spinal column (Figure 2) and the gas-filled intestines tend to rise above the heavy, filled gallbladder (Figure 3).

2. Movement of the patient which might blur the gallbladder shadow is easily avoided.

3. The contrast medium tends to enter the bile ducts in a greater number of cases (Figure 4).

4. More effective demonstration of the layering of the bile is achieved, a point of academic interest to many examiners.

From the Department of Radiology of the Rees-Stealy Clinic.

Presented before the Section on Radiology at the 79th Annual Session of the California Medical Association, April 30-May 3, 1950.

Figure 1.—Patient in right lateral decubitus position, immobilized with canvas band.

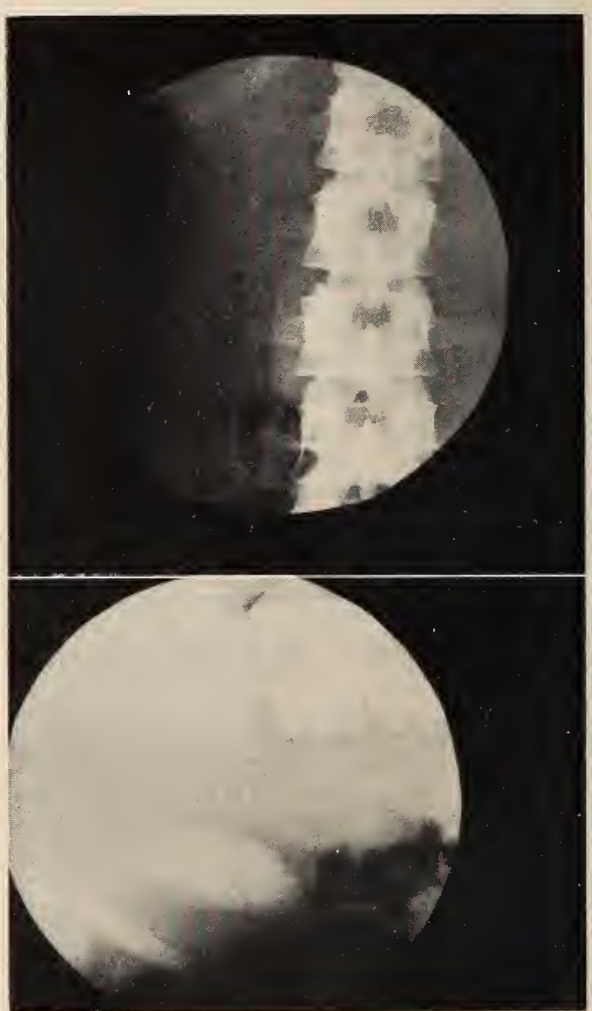


Figure 2.—*Upper:* Gallbladder obscured by spinal column in usual position. *Lower:* Gallbladder falling away from spinal column in decubitus position.

5. Gallstones which may not be visible on films taken in the usual position are demonstrated (Figures 5 and 6).

So efficient has this position proved to be in the author's experience that it is used routinely to supplement the usual cholecystographic procedure used in all cases.

2001 Fourth Avenue.

REFERENCE

1. Kirklin, B. R.: New position for cholecystography, Am. J. Roentgenol. 60:263-268, Aug. 1948.

Figure 3.—*Left:* Gallbladder obscured by gas-filled intestines, in usual position. *Right:* Gas-filled intestines rising above gallbladder in decubitus position.

Figure 4.—*Left:* Bile ducts not demonstrated with patient in usual position. *Right:* Ducts filled with opaque medium with patient in decubitus position.

Figure 5.—*Left:* Gallstones not visible with patient in usual position. *Right:* Gallstones demonstrated with patient in decubitus position.

Figure 6.—*Left:* Gallstones not visible with patient in usual position. *Right:* Gallstones demonstrated with patient in decubitus position.

A Psychosomatic Approach to the Climacteric

Mathew Ross, M.D., *Beverly Hills*

SUMMARY

Two major aspects of the climacteric in women are endocrinological changes with their effects upon the sympathetic nervous system, and psychological factors leading to anxiety with its effect upon the sympathetic nervous system. Depending upon the circumstances in each case, the interruption of the vicious cycle thereby established may require hormonal therapy, psychotherapy, or both. The mere correction of hormonal imbalance may fall far short of effective treatment.

ALL too often the physician is inclined to explain the symptoms of female patients in relation to menstrual function. In this connection, Young[9] commented: "Too frequently, nervousness in women between the ages of thirty and forty is glibly reduced to 'premature menopause'; where the age range is forty to fifty-five 'menopause' offers a handy explanation, and nervousness after fifty-five may be attributed to 'getting over the menopause.'" The two-thousand-year-old concept of untoward symptoms caused by the wanderings of the uterus has been replaced by the "scientific concept" that estrogen deficiency is the total explanation despite the observation by every physician treating patients in this epoch of life that there are many who do not benefit from estrogen substitution therapy.

HORMONAL INFLUENCE

Reporting upon endocrinological studies, Fluhmann and Murphy said: "Failing or absent ovarian function is not associated with a complete disappearance of substances having estrogenic properties. The hormone may be detected at cyclic intervals or it may be constant, but no relationship between climacteric symptoms and its absence could be established. The presence of excessive amounts of a gonadotropic substance, probably of anterior pituitary origin, bears a distinct relationship to the severity of the climacteric symptoms."

PSYCHOSOMATIC ASPECTS

In the past decade, internist, gynecologist, endocrinologist, and psychiatrist have come to agreement on the psychosomatic approach to the disordered climacterium.[1-9] It would be well to recall that in the life of the female the climacterium is a natural evolutionary period having a regressive quality the opposite of another evolutionary phase, puberty. Deutsch[2] stated: "Whatever influence the changes in hormonal activity may exert upon the whole psychosomatic picture, there is no doubt that the mastering of the psychologic reactions to the organic decline is one of the most difficult tasks of woman's life. The whole course of the climacterium is undoubtedly determined by the fact that with cessation of ovarian activity the remainder of the endocrine system is deranged in its functioning. The individual manifestations depend greatly on the given woman's personality." And Weiss,[8] in the same vein: "One may say that the glandular functions seem to furnish an impetus to the psychologic processes, but there must be a well integrated psychologic structure which can do something intelligent for the emotional needs of the individual who possesses the glands."

SYMPTOMATOLOGY

Contradictory statements appear in the literature regarding the incidence of symptoms. Weiss[8]: "It is estimated that at or about the time of the cessation of menstruation, 80 per cent of women experience a variety of unpleasant symptoms." Barnacle[1]: "It is generally agreed that about 80 per cent to 85 per cent of women have no complaints." Novak's[5, 6] point of view seems the most pragmatic: "Two facts are clearly established, one, that in only a small minority of women are the characteristic menopausal symptoms sufficiently severe to interfere materially with health and happiness as measured roughly by the necessity for medical attention, and, two, many of the symptoms complained of by women in the fifth decade of life are wrongly attributed to the menopause."

Those symptoms upon which there is the most universal agreement are the vasomotor which express the over-responsivity of the sympathetic nervous system in the characteristic hot flashes as well as in various other perturbations at the physiological level.

On the emotional side, anxiety is the central feature producing tension which, via the hypothalamus, reaches the oversensitive sympathetic system with disturbing nerve impulse bombardments. As a result there appear the various psychosomatic symptoms familiar to the clinician: hot flashes, cold shivers, emotional instability, insomnia, depression of spirits, tingling in the skin and extremities, headaches, giddiness, nausea, fatigue, dyspnea, sweating, and so on.

EMOTIONAL DYNAMICS[1, 2, 4]

Anxiety in the climacterium stems from a multitude of causes, the most important being the patient's own concept of herself. The woman in this phase of life is assailed by many threats to her

sense of self-esteem and self-worth. A decline in the beauty-creating activity of the gonadal secretions with the gradual loss of femininity as expressed in secondary sexual characteristics, attacks the woman's narcissistic adjustment. With the cessation of menses, the woman inevitably faces the loss of reproductive capacity. In the naive woman, this blow may be accompanied by the misconception that sexual activity is also at an end or may become uncontrollable. Then, too, the threat of senescence is increased by the cessation of the menses and the threat brings with it heightened insecurity, for now to biological decline are added fears of physical and social uselessness and even the spectre of social dependence. As though this were not enough, there is the situation in which the children, up to now more or less dependent upon the mother, are ready to leave the home, marry, and establish their independence of the mother, whose opportunities for service to them are decreased, adding to the feelings of lowered self-esteem. Finally, the contemporaries of the climacteric woman are similarly affected, are becoming restricted in their physical activities, are afflicted by illness, and some die. Outside the contracting social circle, new friends are harder to make, thus decreasing the rewards of friendship and turning the woman's attention and interest further within herself.

In a word, the clinical picture is one of mounting anxiety with its attendant strain upon a sympathetic nervous system in a state of heightened reactivity organically determined and enhanced. Therapy should be directed against this truly vicious cycle.

DIAGNOSIS[4]

If rational, successful therapy is to be carried out, the etiologic factors and their relative importance must be appraised.

The extent of the influence of hormonal deficiency in a given case may be determined in either or both of two ways—by endocrinological assays and/or the observation of response to a potent estrogen preparation and a placebo administered in alternating periods. The interpretations of these tests are not as obvious as they would seem, in that the mere presence of a pronounced endocrine deficit does not exclude the influence of psychogenic factors.

Recalling the influence of anxiety as a primary etiologic factor, the physician will determine its roots by sympathetic, patient listening to what the patient says of herself. That no hint of subjectivity, censure, prudery, or Jovian detachment be conveyed to the patient is of utmost importance. In the interview the physician should ascertain how much anxiety the patient has and what are its sources.

For example,[5, 6] it is patently clear that the 47-year-old woman who apprehensively reports to a physician that she has scanty menses, frequent hot flashes and sweats which disturb her rest at night, that she awakens with a panicky feeling, that she feels irritable, unstable, and cranky, noting headaches, vertigo, and depression, as well as other symptoms—it is quite clear that she does not require a prescription for natural or synthetic estrogen so much as she does an attempt to understand the psychological aspects of her current state, since no one would conscientiously explain the symptoms on the sole basis of estrogen deficit, even though the patient is obviously in the climacterium.

THERAPY[1, 2, 4-9]

The somatic, endocrinological aspect of treatment may be epitomized:

1. The great majority of menopausal women require no endocrine treatment at all.

2. "There is perhaps no gynecological disorder in which the indication for organotherapy is more rational than in the treatment of typical climacteric symptoms, especially of the vasomotor group."[5, 6]

3. The literature contains many such admonitions as Novak's[5]: "The physician who depends upon endocrine therapy alone will fall short of the requirements in many cases, and indiscriminate endocrine therapy certainly should be frowned upon."

In the event that vasomotor symptoms are such as to require therapeutic intervention, there are many effective preparations, natural and synthetic, available. In this regard, it should be kept in mind that "the objective of treatment is the relief of symptoms, not the reestablishment of flowing, nor the reduction in excretion of gonadotropic hormone, nor the alteration of vaginal cytology. Progress of the patient is to be gauged by relief from symptoms, not by any changes in pituitary or estrogenic hormone levels determined in bio-assays."[7]

Often the patient gets considerable relief from the mere telling of her story. Reassurance and educative statements regarding the physiologic nature of the menopause and climacterium will do much to allay the anxiety produced by fear of insanity and loss of sexual activity and prowess. To assist the patient in self-appraisal with a view to strengthening her appreciation of her virtues and accomplishments is ameliorative balm for her narcissistic wounds. Sometimes the physician will be able to detect that the patient has unwittingly passively accepted a life pattern leading to fewer and fewer opportunities for accomplishments of a type meaningful to her. This should be demonstrated to the patient, and ways of reversing this process should be made clear to her. Indicated in such circumstances is a sort of informal occupational therapy, whether it be Red Cross work, gardening, ceramics, canasta, baby-sitting with grandchildren, political activities or whatever, so long as it be something the patient respects or can be induced to respect. The goal of therapy of this kind is to enhance the sense of self-esteem with resulting decrease of anxiety. Wherever possible, activities which involve other people are preferable to solitary occupations, not only because the feeling of "we" is enhanced at the expense of "I," but because the problem of the contracting social circle thus may be solved. In some instances the aid of the children, who in a sense are responsible (by virtue of having established their own independ-

ence) for the decreased self-esteem of the patient, can be enlisted to provide social and recreational opportunities.

The economic security problem is attacked with the greatest difficulty, but increasing civic, governmental awareness of the problems of aging persons has helped to some extent. In the informal occupational therapy sphere such pursuits as baby-sitting, sewing, household hobbies like ceramics, lampshade making, and sale of preserves or cakes may augment decreased economic capacities of the family group, as may more conventional full or part-time employment. These measures can also be supplemented by a "philosophical approach to life" initiated by the physician and an occasional prescription of "uplift literature" like Fosdick's "On Being a Real Person" or Liebman's "Peace of Mind." Books like E. C. Hamblen's "Facts About the Change of Life" and F. S. Edsall's "Change of Life" also are helpful reading for some patients. Local and national mental hygiene organizations have other useful publications along this line.

Some of the secondary changes in sex characteristics which accompany the climacteric can be converted into assets with the complimentary attention of the physician to becoming gray or white hair. Prescription of a weight-limiting diet and mild conditioning exercises to mitigate the tendency to obesity characteristic of this epoch, may temper this natural narcissistic insult.

When an underlying psychoneurotic or psychotic personality structure cannot bear the added burden of the psychosomatic adjustment required by the climacterium, then the assistance of one specially trained to handle psychiatric problems should be enlisted. Generally in the presence of severe anxiety states, hysteria, and melancholia, the services of a psychiatrist are required for more intensive and extensive forms of management. For anxiety states and hysteria psychotherapy offers a favorable prognosis, as does psychotherapy combined with electroshock for melancholic, depressive and suicidal states. It must be emphasized that the climacterium does not, in itself, produce the psychiatric entity but merely may precipitate its frank clinical appearance because the defenses against its emergence, heretofore reasonably successful, cannot withstand the added assault of the new adjustment required of the woman in the climacteric.

360 North Bedford Drive.

REFERENCES

1. Barnacle, C. H.: Psychiatric implications of the climacteric, Am. Pract., 4:154, Nov. 1949.

2. Deutsch, H.: Psychology of Women, Vol. II. New York: Grune and Stratton, 1945, p. 456.

3. Fluhmann, C. F., and Murphy, K. M.: Estrogenic and gonadotropic hormones in the blood of climacteric women and castrates, Am. J. Obst. & Gynec., 38:778-785, Nov. 1939.

4. Hoskins, R. G.: The psychological treatment of the menopause, J. Clin. Endocrinol., 4:605-610, Dec. 1944.

5. Novak, E.: Gynecology and Female Endocrinology. Boston: Little, Brown and Company, 1941. Chapter 36.

6. Novak, E.: The management of the menopause, Am. J. Obst. & Gynec., 40:589, Oct. 1940.

7. Sevringhaus, E. L.: Therapy of the patient in the menopause: endocrine methods, J. Clin. Endocrinol., 4:597, Dec. 1944.

8. Weiss, E., and English, O. S.: Psychosomatic Medicine. Philadelphia: Saunders, 1943, pp. 252-261.

9. Young, R. H.: The relationship of nervous disorders to the menopause, Am. J. Obst. & Gynec., 38:111, July 1939.

Experiences with Caudal Analgesia in a Small Community Hospital

Arnold Manor, M.D., *Monterey*

SUMMARY

Experience with caudal analgesia for obstetrical patients in a small community hospital, using a technique adapted to the limitations of facilities and personnel, has led to the belief that requirements for the procedure can be met in any good, well-run small hospital.

ANALGESIA and anesthesia in childbirth has been a major problem besetting the obstetricians of the world since the beginning of history. At present it is perhaps the most controversial phase in the field of obstetrics. Prior to the middle of the 19th century but meager efforts had been made to alleviate the pains of childbirth. In 1847 ether and chloroform were introduced in obstetrics. The acceptance of chloroform by Queen Victoria sanctioned the use of anesthesia in childbirth for the general public and this resulted in a great impetus to this entire field of medicine. In 1880 nitrous oxide-oxygen was introduced by Klikowitsch in Petrograd. This was soon followed by the addition of scopolamine and morphine. The use of barbiturates was begun in 1923. During this same period Gwathmey devised the technique of rectal instillation of ether. Tribromethanol (Avertin®) was popular for a short period, and later paraldehyde was used, both rectally and by mouth. The employment of caudal block began early in the century, but even though this technique was used in many cases it fell into disuse for several reasons. In 1940 Hingson and Edwards reestablished the caudal block as a useful procedure in obstetrics and it is largely through their efforts that this technique has become popularized in the past decade.

Spinal anesthesia, which has been employed over a period of years for obviation of pain in obstetrics, recently has come to be used more widely. The Dick Grantly Read method of psychotherapy and relaxation is also being employed in increasing numbers of cases. This approach to labor is one that has much to offer in the handling of any obstetrical case regardless of the type of anesthesia employed. The search for the perfect technique is still in progress and with each new advance an addition is made to the medical armamentarium in the battle with the pain of childbirth.

Presented before the Section on Obstetrics and Gynecology at the 79th Annual Session of the California Medical Association, San Diego, April 30-May 3, 1950.

Until recently the use of anesthesia in labor has been directed at relieving the mother of pain, with the infant receiving secondary consideration. Obviously in most methods for relieving pain the unborn infant is to a greater or less extent involved in the effects of agents used. Snyder in a recent monograph "Obstetric Analgesia and Anesthesia" has reevaluated this aspect of the problem so that more and more obstetricians are giving increased consideration to the second patient, the infant, in employing anesthesia and analgesia in labor. The criteria of relief of pain combined with complete safety for both mother and unborn infant are ever before us and it is probably true that no one procedure will ever be found that will fulfill all these demands in all cases. It is therefore necessary to evaluate the many factors in each case, in each situation, and select the most advantageous technique for use.

The particular background and environment in which the author confronts the problems outlined differ from the situations to which most trained obstetricians are accustomed. Ten years ago the community in which he practiced was made up of approximately 25,000 people living in the towns of the Monterey Peninsula and the immediately surrounding areas. Hospital facilities for this population were provided by two general hospitals with an effective bed capacity of about 60, in addition to two small nursing-home hospitals which provided an additional ten to fifteen beds. Aside from an occasional home delivery all patients during this period were delivered in these hospitals or at the County Hospital in Salinas. The number of babies born on the Monterey Peninsula in 1938, 1939 and 1940 were 306, 317 and 442, respectively. One hospital (where the fewest infants were delivered) had a resident nurse-anesthetist during the pre-war years who was available to administer general anesthesia for delivery. The other hospitals had no trained personnel for anesthesia and it was the custom for the nurse in charge of the patients in labor to give drop ether for delivery. Occasionally one of the local general practitioners was called in to administer nitrous oxide-oxygen or ether, and in a few cases local anesthesia was employed. During the war years when the number of deliveries increased considerably and the number of physicians decreased, it was nearly impossible to have a physician anesthetist for uncomplicated cases.

Since the end of the war the population of the Monterey Peninsula has reached an estimated 60,000. The numbers of births for the years 1945

to 1949 were 1,035, 974, 1,142, 1,341, and 1,612 respectively. The number of available private hospital beds has increased to 90, and in addition there is an obstetrical service at the Fort Ord Station Hospital which provides hospitalization for wives of armed service personnel. During this period there has developed a group of physician anesthetists. Three of the group are general practitioners who have had more or less specialized training in anesthesia, and there is one whose practice is limited to anesthesia. One or more of these physicians is usually available for the administration of anesthesia to obstetrical patients.

It is well known that the average obstetrical patient is a poor subject for general anesthesia. The patient frequently arrives at the hospital after a full meal and often is emotionally upset and apprehensive. The nasal passages may be congested from crying during labor, and at best the anesthetist regards the obstetrical patient with misgivings. That there have been only rare serious anesthetic accidents in the author's experience is more good fortune than a result of ideal working conditions.

The use during labor of analgesics such as barbiturates, scopolamine, and Demerol,® in addition to general anesthesia for delivery, increases the incidence of anoxia and asphyxia in the newborn. In the author's experience there have been only a few cases in which such effect on the infants has been pronounced, possibly because an attempt has been made to use medication in moderation. Nonetheless, it is easy to see that conditions for mother, infant, obstetrician and nurse were far from ideal.

With this background in mind, it was decided to establish the use of caudal analgesia and anesthesia as a technique in the care of selected patients for labor and delivery in an effort to avoid some of the previously mentioned problems.

Several features of caudal analgesia seemed attractive. Primarily, it avoided general anesthesia which has always seemed particularly hazardous in obstetrics, both for mother and infant. It offered a maximum of pain relief to the patient in labor with a minimum of effect on the infant. The chief problem seemed to relate to the modification of the technique as used in large institutions to make it practicable in a small hospital. There were several factors in the local situation which were not commonly present in institutions from which success with the use of caudal analgesia had been reported. By the time the use of caudal analgesia and anesthesia was decided upon, all hospital care was limited to the two general hospitals, but these are small and have only partially organized obstetrical departments. There are no residents or interns, and the nursing staff, while adequate, is somewhat limited as would be expected in a hospital where no more than ten to twelve beds are allotted to obstetrical patients. In addition the delivery rooms are adjacent to the surgery suite rather than being an integral part of the obstetrical wing.

The problem, then, was one of planning the procedure in such a way that after the anesthetic was administered and established, the patient could be safely and easily supervised by a registered nurse.

After consultation with members of the department of anesthesia at Stanford University School of Medicine, a procedure with pontocaine solution as a single injection block was adopted. Epinephrine was added to a 0.15 per cent solution of pontocaine to prolong the relatively long action of the drug. The intermittent or single injection technique was followed rather than the continuous method because of the minimum amount of medical and nursing supervision required in the former procedure. Trials were made with inlying malleable caudal needles and the catheter technique, but as it was found this increased the problems of the supervising nurse with the only advantage gained being the avoidance of reinsertion of the needle for repeated injections, these techniques were abandoned. Not infrequently the malleable needle became dislodged and reinsertion of the needle for reblock was required anyway. It was also found that it is easier technically to insert a non-malleable spinal needle than the malleable caudal needle and that as experience increased skill improved and the problem of reinsertion of the needle for reblock became minimal. The patients themselves were happier and less apprehensive when the needle was removed at the end of each injection. The only accident encountered with a needle resulted from moving a patient with an inlying malleable caudal needle, which broke below the hub. It was retrieved without difficulty, but the experience emphasized that the presence of such a needle does bring special problems and does require more care and supervision of the patient than the other procedure.

It is routine to use one of the barbiturates prior to the pontocaine injection. Usually 0.1 gm. to 0.2 gm. of Nembutal® along with 0.065 gm. of codeine or 50 mg. of Demerol® is given fairly early in the first stage and this usually provides adequate sedation to carry the patient to the time when the caudal anesthetic is administered. In cases in which the cervix dilates slowly it is sometimes necessary to give some additional sedation before the anesthetic is given. The patient is placed in a modified Sims's position, the area is prepared with tincture of merthiolate, and a 20-gauge 2½- or 3-inch spinal needle is inserted into the caudal canal. Test aspiration is done to make sure that the subarachnoid space has not been punctured, and a 6 to 8 cc. test dose of 0.15 per cent solution of pontocaine is injected. After a wait of ten minutes the patient is observed for signs or symptoms of subarachnoid injection. None being found, the effective dose of anesthetic solution, usually 25 cc., is injected. When caudal anesthesia was first employed, the total dose was varied according to the height of the patient, but undesirably high levels of anesthesia were obtained in some cases, and it was found that there was generally little correlation between the patient's height and the anesthetic effectiveness of a standard dose. With a 25 cc. injection the incidence of high levels of anesthesia, and attendant complications, has been

cut to nil and the number of times that this amount of anesthetic mixture is insufficient for adequate analgesia is low. Following the injection the patient is returned to her back, the head is elevated slightly and a pillow is placed under the knees. The blood pressure and pulse are observed at frequent intervals. A decrease in blood pressure of 10 to 20 mm. of mercury is not unusual. If the systolic blood pressure falls to 100 mm. of mercury, a circulatory stimulant is administered. A pronounced decrease in blood pressure can lead to an anoxic state in the infant. A systolic blood pressure of 80 mm. is considered essential to provide adequate oxygen supply to the infant. Ephedrine or Neosynephrine® is usually employed for stimulation, and use of these drugs is repeated if indicated. Rarely are there signs of oxygen want, but when this exists, oxygen inhalations are given. The regularity and duration of uterine contractions are carefully observed.

It is the rule that the attending physician remain with the patient for a minimum of 45 minutes following the caudal injection. If, as is usual, at the end of this time the anesthetic level is established, the blood pressure is stabilized and the condition of the patient is satisfactory, the physician may leave the continued care and observation of the patient to the nurse in charge of patients in labor. If a return of pain is noted by the patient, a reblock may be carried out in the manner previously described.

When this method was first employed, patients were selected according to the usual indications and contraindications listed in the literature. It is no doubt true that, in initial enthusiasm for the method, the procedure was employed in some cases in which another method might have been better. That the method is only being used now in about 50 per cent of the cases, whereas during the first year it was employed in about 73 per cent of the cases, is not so much a reflection on the value of the technique as it is evidence of the realization of the great importance of careful selection of patients. Three years ago, where no contraindication existed, caudal analgesia was employed in patients in active labor with the cervix dilated to about 4 cm. Now the anesthetic agent is not introduced until dilation has reached 5 to 6 cm. This is done because, contrary to the reports in the literature, it is felt that there is a definite tendency for the progress of labor to slacken when analgesia is established early (4 cm. dilation or less). As a result of this postponement of the administration of the caudal block, there are a number of cases, especially in multiparae, in which progress is so rapid from the 5 to 6 cm. dilation stage to complete dilation that there is insufficient time to use the caudal technique. This is one of the factors in lowering the percentage of cases in which caudal analgesia is used. The author has become wary of this procedure for women in whom there is any sign of uterine inertia; and if caudal anesthesia is used at all in such circumstances, it is deferred until the end of the first stage of labor or the beginning of the second.

Patients who have no deep-seated apprehension with regard to it have been encouraged to permit the use of caudal analgesia, but it has not been urged upon anyone who was definitely opposed to it, save possibly in the case of premature labor in which the avoidance of general anesthesia is such a definite advantage to the premature infant.

Breech presentation is considered by some physicians to be a contraindication to the use of caudal analgesia; the increased tonicity of the uterine musculature is thought to increase the difficulty of breech delivery. However, the author in using this procedure in breech presentations has noted that the relaxation of the pelvic floor seems to make delivery easier.

At first caudal anesthesia was used in cesarean section, but the time consumed in establishing the anesthetic level and the relatively high percentage of cases in which anesthesia was inadequate was found to be a distinct disadvantage in cases of this type. Now, weighted spinal anesthesia is used for abdominal delivery.

As the number of deliveries in which this procedure was used—between 500 and 600—is small compared to the many large series reported in the literature, it would seem to add little to make a statistical analysis of the series. The author has found that success with the procedure has increased as skill in its administration has improved. The majority of failures can be attributed to failure in the proper placement of the needle in the caudal canal. There was a small number of patients in whom the anesthetic agent seemed to have no effect and a few in whom a satisfactory anesthetic level was not obtainable, but in general it can be said that failure to establish adequate analgesia generally resulted from failure in the administration, not in the procedure itself.

With the technique previously outlined employed, it is usually found that within 30 to 45 minutes the anesthetic level is established at about T-9 or T-10. Sometimes the frequency and duration of the uterine contractions diminishes noticeably, indicating that some of the motor fibers have been involved in the anesthesia. The author has found that the use of small doses (2 minims) of obstetrical Pituitrin® or Pitocin® are effective in counteracting this effect, and there have been no untoward reactions from the use of such uterine stimulation.

The duration of effective analgesia averaged three hours, with an occasional shorter period and a few cases in which anesthesia lasted four hours or more. Usually by the end of this time, if not before, dilation is complete and the presenting part is low, if not actually on the perineum. A reblock is then done if necessary and the baby is delivered.

There have been but four instances of puncture of the subarachnoid space, three of which were immediately noted as the spinal fluid flowed from the end of the needle on removal of the stylet. In those cases no further attempt was made to use caudal anesthesia. In the fourth patient, in spite of the rou-

tine procedures to avoid subdural injection (aspiration of the needle, ten-minute wait after the administration of the test dose, and further attempts at aspiration before injection of the full dose, questions to elicit symptoms of spinal anesthesia from the patient) there developed a rapidly ascending spinal anesthesia with respiratory arrest following the injection of the full effective dose. Artificial respiration for three hours was necessary. Fetal death occurred in this case, but it was the only one in the series which could be attributed to the anesthetic procedure. This case was the only one in the series in which there was serious complication. Rapid drainage of the spinal fluid might have speeded the recovery of the patient.

Forceps delivery was carried out in practically all cases. This is in agreement with reports by other investigators. In a very high percentage of cases the baby breathes or cries before delivery. Because of this prompt initiation of respiration, it is essential to take care to wipe out the mouth or aspirate the mucus from the mouth as soon as the head is delivered, and before the remainder of the delivery is carried out, to prevent aspiration of fluid into the lungs.

Occiput rotation is more frequently required with caudal than with inhalation anesthesia, but the ease with which this is done when the soft parts are completely relaxed more than compensates for the higher incidence.

While no accurate studies have been made in this regard, it is the author's clinical impression that the loss of blood at delivery is not appreciably reduced with the use of caudal analgesia. This is contrary to the reports in the literature.

In the present series there were no cases of infection resulting from the use of caudal analgesia and there were no instances of postanesthesia nerve involvement.

CONCLUSION

In conclusion it seems safe to say that caudal analgesia is a useful and valuable procedure in the practice of obstetrics when used with care and proper supervision in carefully selected patients. The author is satisfied that the requirements for the administration of caudal analgesia can be met in any good, well-run small hospital.

The advantages offered by caudal analgesia are several:

1. It is possible to carry the patient through the latter part of the first stage and second stage without heavy sedation and its potential undesirable effects on the infant. Most patients tolerate labor better when they feel assured that the latter stages will be painless.

2. The prompt vigorous cry of the infant is in pronounced contrast to the more delayed, less active cry of the infant whose mother has been heavily sedated during labor and is under general anesthesia for delivery. Where it is not always easy to have the services of a trained anesthetist, avoidance of general anesthesia is a distinct advantage.

3. Patients under caudal anesthesia are much easier to care for in labor; there is less tension on the part of the nursing staff, and fewer hurry calls for the physician, which in a small hospital without a resident staff is a distinct advantage.

The disadvantages of caudal anesthesia are few but definite:

1. It is a comparatively difficult technical procedure and requires practice to administer successfully.

2. It is potentially dangerous because of the injection of large amounts of anesthetic agents which, if through error they enter the subarachnoid space, may lead to death.

3. It necessitates operative deliveries in most cases, so that it ought not be used by physicians who are not qualified to perform them.

4. It is time-consuming for the attending physician.

Low spinal anesthesia has several advantages not possessed by caudal anesthesia. It is simpler and, because only small amounts of anesthetic agent are employed, it is not potentially as dangerous. Its use for analgesia in the first stage is limited. The problem of postanesthesia headache has been an annoying one in the author's limited experience with spinal anesthetic. This relatively minor complication has caused so much discomfort to such a large proportion of cases that the author prefers not to use this technique if caudal anesthesia is at all feasible.

980 Cass Street.

The Physician and Workmen's Compensation Cases

Packard Thurber, M.D., Packard Thurber, Jr., M.D., and
Willard I. Nesson, M.D., *Los Angeles*

THIS discussion is directed to physicians who are either just entering the field of industrial surgery or who do varying amounts of industrial surgery concurrently with private practice. Physicians who have long specialized in such work are well acquainted with most, if not all, of what is to be covered in the following paragraphs.

Prior to 1913, there was no such thing as a Workmen's Compensation Act in the State of California. The working man's only hope for redress from industrial injuries was through the processes of civil courts. In that year, the original law was established, setting forth the responsibilities of the physician and of the employer to the employee in the event of injury—the establishment of weekly compensation benefits, recompense for permanent disabilities resulting from injury, and many other factors. Various parts of the law were revised as time passed. Any physician interested in building an industrial practice should become well acquainted with the material contained in the two books, "Industrial Accident Commission and Procedure" by Warren L. Hanna, and "Compensation Law" by Douglas L. Campbell.

Many physicians who are new to industrial practice or who only occasionally treat a patient for industrial injury or illness, object to the amount of so-called "paperwork" which is required. However, it should be realized that this is not the whim of some insurance company, but is a necessity for the protection of the interests of the patient, the physician and the compensation insurance carrier. Before the patient can be given any weekly compensation, the law requires that the insurance company have a first surgical report of the accident from the employer, verifying the accident. This report must be made on a special form provided by the Industrial Accident Commission. Since the law of the state further requires that, on advisement of injury to an employee, the insurance company must prepare to take care of the injured man in the form of medical expenses and temporary disability payments, it can readily be seen that accuracy in description of the injury, proper estimation of the period of temporary disability, and early advisement of the degree of probable permanent disability are absolutely essential. Even though it is in many cases difficult, an opinion as to temporary and permanent disability must be given, and the attending physician is the best judge of this. It is understood that prognosis may change as a case progresses. The physician should include all the complaints of the injured person in his reports, not minimizing the condition or complaints, nor be too optimistic as to end results, for it is imperative that the insurance company have adequate information to set up reserves to cover the cost of the case. In cases in which he is not positive of the condition, the physician should be careful about giving diagnoses in writing his first report of injury. As a week or more may elapse before another specialist has opportunity to examine the injured person, the diagnosis made by the first physician would carry considerable weight in any later disposition of the case.

Most persons who are receiving compensation are in some degree embarrassed financially, and it is therefore important that the compensation payments be made regularly and promptly. Inasmuch as such payments are based upon medical opinion as to disability, it is both the legal and moral duty of the attending physician to keep the compensation carrier advised of the patient's condition and progress. These progress reports (on blanks furnished by each insurance company) permit the insurance carrier to pay compensation promptly and continue payments during disability.

LEGAL FACTORS

Frequently question arises as to the legal relationship of the physician to the patient, and to the insurance company, as differing from that of ordinary physician-patient relationship. The only difference is that the law of privileged communications is waived by the patient insofar as the compensation carrier and physician-relationship is concerned. If a physician does not wish to make an examination, or send a report, or make a diagnosis in any case in which to do so would embarrass or affect him in the community in which he lives, he should notify the insurance company so that it may have the injured person examined by a physician who can give an opinion without detriment to anyone.

It should be remembered that the insurance companies are bound to pay any and all legitimate claims, but can only do so with the cooperation of the physician in charge of the case. Prompt and accurate reports are necessary, and the physician should communicate with the insurance carrier by telephone, letter, or telegraph in all critical cases or where there is doubt concerning proper procedure, and in all cases where there is a question of the relationship of the injured person's condition to his occupation. This permits the carrier to advise regarding procedure or to obtain consultation. In all

legitimate claims, the interests of the physician, patient, and insurance company are identical—rapid recovery, and good end results from the injury sustained.

Frequently the physician will confront a case of injury in which preexisting disease is present, or in which the diagnostic picture is confused by a nonoccupational injury or coincidental illness. Many persons have physical defects of which they are not cognizant, but which may eventually progress to a stage at which symptoms develop. This may occur while the person affected is working or at home. It is also possible for an injury at work to aggravate an unrecognized ailment. The patient's interests in such circumstances are best served if the attending physician determines the true relationship of all these factors and weighs them carefully in formulating an opinion. This opinion must be based upon the facts obtainable and according to the compensation law, not upon what the physician feels the law should be. In "problem cases" of this kind, and in all serious cases, the insurance carrier is usually anxious to afford consultation and the help of specialists.

The Compensation Act requires that an injured man be given a release to work when, in the attending physician's opinion, he is physically capable of returning to work insofar as his industrial injury is concerned. The fact that a patient may have developed an unrelated and disabling medical condition in the interim does not alter the physician's responsibility relative to notification regarding the work status of the patient with regard to industrial injury. It is also required that any condition which in the physician's opinion might cause permanent disability must be reported. When a patient is able to return to light work (partial temporary disability), it is well to advise the insurance carrier that such is the case, since in many cases it may be found that the employer has such work available. Often this will permit the injured employee to return to a better economic status and be of definite benefit from the standpoint of patient morale. As light work may also be of medical value, in some cases it is better than occupational therapy for the same purpose.

CLASSIFICATION OF DISABILITIES

There are two major classifications of disability —temporary, and permanent, in each of which are two sub-classifications:

A. Temporary disability. (In this classification, decisions affect the size and duration of continuing compensation payments.)

1. Total: This indicates that for the time estimated or verified by the attending physician, the patient is incapable of carrying out any form of work.

2. Partial: The patient is not fit to assume all the duties of his regular work, but could assume a part of them or return to light work.

B. Permanent disability. (In this classification, concern is with permanent disability ratings or settlements.)

1. Total: The patient is physically handicapped to such a degree that he will permanently be unable to resume any form of gainful employment. Such cases are in the minority.

2. Partial: Some degree of permanent physical handicap from injury exists which will limit the patient's working ability in one form or another.

A few of the common factors which continue to cause difficulty in compensation cases are:

1. *X-rays:* X-ray studies are indicated wherever such a procedure will further or clarify diagnosis. It is unnecessary to dwell upon the seriousness of neglecting to take adequate x-ray films, since, for example, it can readily be understood that failure to diagnose a fracture early will usually result in less satisfactory reduction and increased disability. The value of comparative x-rays of like parts, in cases in which the presence of pathologic change is questionable, should not be overlooked.

2. *Incomplete histories:* There are certain fundamental facts which must be obtained to arrive at a logical conclusion. A complete history need not be a long one.

3. *Incomplete diagnosis:* Inaccurate diagnosis may result in prolonged temporary disability, and increased permanent disability.

4. *Anomalies:* The following are common anomalies and processes which may be mistaken for injury: Bipartite sesamoids; failure of fusion of base of fifth metatarsal bone; failure of fusion of medial tip of tarsal scaphoid; os trigonum; Osgood-Schlatter's disease; failure of fusion of transverse process of vertebra, L-1; old ununited chip or "sprain" fractures about joints; epiphyseal lines in young adults.

5. *Tendon and nerve injuries:* In all cases of lacerations, especially in the hand, careful examination to determine the exact tendon and nerve involvement is extremely important. One should not forget the possibility of rupture of the biceps tendon without laceration.

6. *Splinting:* The not uncommon practice of "tongue-blade" splinting of fingers results in such pronounced functional disability, if any stiffness occurs, that it is to be condemned. There are very few cases in which the involved digits cannot be immobilized in the semiflexed position with more satisfactory results. The same penalty results from immobilizing the ankle in a position of plantarflexion. Resultant stiffness in this position gives a high degree of permanent disability. Other joints should be splinted in the position of maximum function unless this is definitely contraindicated by some unusual situation.

7. *Rating for permanent disability:* When an injury results in permanent disability, it is the duty of the attending physician, when maximum improvement has occurred, to fill out permanent dis-

ability rating forms. However, the law requires that these forms are not to be completed until, in the physician's opinion, there will be no change for better or worse in the condition as further time passes. Statements made in filling out these forms should not be speculative, but should be based on objective findings. A reprint from "Industrial Accident Commission Practice and Procedure" entitled "How to Examine for Disability Rating Purposes" is available through the Industrial Accident Commission. This gives a very clear and comprehensive description of the proper procedure and methods of measurement used in preparing such forms. It is essential to fill out all details of the form and to utilize diagrams on the reverse of the blank to give a definite picture of the patient's condition, since the rating board does not see the patient in person.

Insofar as subjective complaints are concerned, all complaints given by the patient should be listed. However, if the physician feels that any of the complaints is not justified by the findings, he should so indicate under "Remarks" on the rating form.

It should be remembered that when a question or doubt arises concerning procedure or other factors in a case, the answer to the problem usually can be obtained by communicating with the insurance carrier.

From both the humanitarian and economic standpoints, the injured workman deserves the best possible medical care. As industry has increased, recognition of the importance of good medical care has come to the employee, the various labor unions, and the employer. Owing to the persistent efforts of most of the physicians in industrial practice, the stigma of the title "company doctor" is gradually fading. Continued effort to improve the medical care given to persons injured in industry is necessary if industrial practice is to acquire the status which this specialty deserves. The quality of treatment must be as high as is that given patients in private practice.

111 West 7th Street.

This is the first of two articles on the role of the physician in industrial compensation cases. The second, dealing with evaluation of subjective complaints, will appear soon in California Medicine.

Perforated Gastric and Duodenal Ulcers

An Analysis of 73 Cases

Francis L. Gasparini, M.D., and Thomas K. Hood, M.D., *San Francisco*

SUMMARY

In 73 cases of perforated gastroduodenal ulcers in which operation was done at St. Joseph's Hospital, San Francisco, during the ten-year period July 1939 to July 1949, the death rate was 13.7 per cent. In all but three of the cases, simple closure of the perforation was carried out.

In 46 cases there were postoperative complications. Of this number, peritonitis and its sequelae comprised 35 per cent and pulmonary complications, 37 per cent. The mortality rate in the group in which these complications occurred was 35 per cent.

THE present study comprises an analysis of 73 consecutive cases of perforated gastroduodenal ulcers in which operation was carried out at St. Joseph's Hospital, San Francisco, during the ten-year period from July 1939 to July 1949. All were private patients and the operations were done by one or another of 21 surgeons.

The group includes only those cases of benign gastric and duodenal ulcers with free intraperitoneal perforation. Cases of subacute perforation and penetrating ulcers of the gastrohepatic omentum and pancreas, as well as those in which there was rupture into the gallbladder and other adjacent viscera, have been omitted.

The study was undertaken primarily to determine the incidence of complications in patients treated surgically, and to compare the mortality rate with rates reported in larger series of cases.

Age. The youngest patient was 24 years of age and the oldest 75. There were 22 per cent in the fourth decade, 30 per cent in the fifth and 29 per cent in the sixth (Chart 1). Shipley and Walker,[6] in an analysis of 200 cases, reported 25 per cent of patients in the fourth decade, 27 per cent in the fifth and 22 per cent in the sixth.

Sex. Ninety-seven per cent of the patients were males.

Season. Perforations occurred with equal frequency during spring, summer, fall and winter. This agrees with observations reported by Estes[2] and DeBakey.[1]

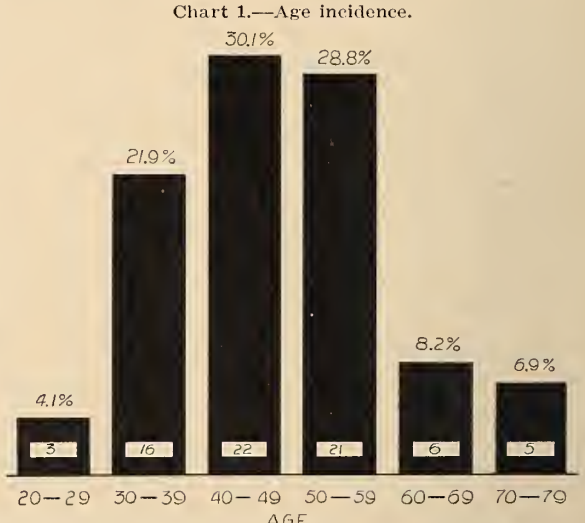
Occupation. Repeated surveys relating the occupation of patients to perforated ulcer have indicated that laborers are the most likely victims. Walton[8] reported 50 per cent of patients were laborers, while Fallis[3] in an analysis of 100 cases noted that 63 per cent of patients were laborers. In the present study, laborers represented 36 per cent of the group.

Location. Approximately 60 per cent of the perforations occurred in duodenal ulcers and 39 per cent in gastric ulcers.

Eighty-six per cent of the patients on whom a complete history was available for review complained of one or more symptoms referable to the gastrointestinal tract prior to the occurrence of perforation. These included hiccoughs, epigastric fullness, gnawing upper abdominal pain, nausea, vomiting (with or without blood), eructation, postprandial distress and tarry stools. Symptoms occurred singly or in varied combinations and had been present for from several hours to several months. More than half of the patients were assertedly following a regimen for relief of peptic ulcer at the time of perforation, and it is of interest that a majority of them did not rigidly adhere to dietary restrictions and instructions as given them by a physician. In other cases the regimen of therapy, as related by the patient, was wholly inadequate as compared with modern standards of ulcer management.

Twenty per cent of the patients had eaten a meal from one to three hours preceding perforation or had ingested alcoholic beverages. One female patient fasted for five days while on an alcoholic bout. In ten per cent of cases the perforation occurred while the patient was at work, and in one case after the patient was struck in the abdomen by a board. Six per cent of the patients were awakened from sleep by severe upper abdominal pain. In two cases the perforation occurred when the patient was in bed in the hospital. In no case did perforation occur during fluoroscopic examination of the stomach after barium meal.

Chart 1.—Age incidence.



From the Department of Surgery, St. Joseph's Hospital, San Francisco.

TABLE 1.—*A Comparison of Mortality with the Interval of Time (in Hours) Elapsing Between Perforation and Operation*

Time Interval Between Perforation and Operation (Hours)	No. of Cases	Per Cent of Series	No. of Deaths	Mortality Rate (Per Cent)
0 - 10	39	53.4	3	7.7
10 - 25	18	24.7	5	27.7
Over 25	8	10.9	2	25.0
Unknown	8	11.1	0	.....

In over 90 per cent of cases the symptoms of perforation consisted of sudden onset of severe upper abdominal pain followed by nausea and/or vomiting. The pain was most frequently described as knife-like, stabbing or cramping in character, often causing the patient to double up. A few patients were reported to have "collapsed" or fainted shortly after the attack of pain.

The time elapsing between perforation and operation was less than ten hours in 53 per cent of the cases, and in 25 per cent it was ten to 25 hours (Table 1).

Eighty-five per cent of the patients gave no history of previous perforation. Eight per cent had had one previous perforation.

The preoperative diagnosis was made correctly in 69 of the 73 cases (94 per cent). Shipley and Walker[6] reported correct diagnosis in 95 per cent. The four erroneous diagnoses were appendicitis, strangulation obstruction of the small bowel, acute pancreatitis and acute cholecystitis.

Leukocytosis with a high percentage of polymorphonuclear cells is common in the presence of perforated ulcer, and this condition may be well established as early as one hour after the onset of symptoms. Absence of leukocytosis, however, by no means excludes the diagnosis of perforated ulcer. The leukocyte content of the blood was determined in 69 cases. In one case leukocytes numbered 5,000, in 14 between 5,000 and 9,000, in 20 between 10,000 and 14,000, in 14 between 15,000 and 19,000, and in 20 over 20,000. Closely paralleling the increase in leukocytes was elevation in the number of polymorphonuclear cells. In 55 of the 69 cases, the proportion of polymorphonuclear forms was over 85 per cent; in 31 cases it was between 90 and 95 per cent.

Blood Pressure, Pulse and Temperature. In most of the patients there was little or no clinical evidence of shock upon admission to the hospital. In 46 cases in which the blood pressure was recorded, there were eight in which the systolic pressure was less than 110 mm. of mercury. In three patients the systolic pressure was less than 100 mm. of mercury; perforation had occurred, respectively, 14 hours, 13 hours, and 6 hours previously.

Sixty-two per cent of the patients had a pulse rate of less than 100 per minute at the time of admission, and 39 per cent had a rate of between 80 and 90 per minute. In 22 per cent the rate varied between 100 and 110, and in only 14 per cent was it over 110.

That the temperature is not appreciably affected by the length of time which has elapsed from perforation to admission to the hospital is indicated by the fact that 84 per cent of the patients had temperature of less than 100° F. upon admission.

Pneumoperitoneum. The demonstration of free intraperitoneal air by a scout film of the abdomen with the patient in either the erect or left lateral decubitus position is an important aid to the diagnosis of perforated ulcer.

Roentgenograms were taken in 52 cases. Pneumoperitoneum was demonstrated in 88 per cent of them. Treiger[7] reported observation of free intraperitoneal air in 60 per cent of cases in which x-ray films were made, and McNealy[4] stated that pneumoperitoneum was observed in 77 per cent of 374 cases of perforated ulcer in which fluoroscopy was done. Pneumoperitoneum was not demonstrated roentgenographically in six of the 52 cases in the present series in which x-ray examination was carried out. In four of the six the perforations occurred in duodenal ulcers, and in two in gastric ulcers; in three cases the perforation had been present less than six hours, and in three between six and 20 hours at the time the films were made.

Anesthesia. Seventy-nine per cent of the patients received general anesthesia, 13 per cent spinal anesthesia, 5 per cent spinal anesthesia supplemented with gas, and 1 per cent local anesthesia supplemented with gas. It may be significant that all deaths occurred in the group given general anesthesia.

In 13 cases in which operation was done after 1948, no deaths occurred. Two factors may well share credit: (1) At the beginning of this period, a fully competent department of anesthesiology was organized at St. Joseph's Hospital, and (2) penicillin and other antibiotics were used in adequate dosage and prophylactically rather than for treatment of complications after they set in.

Drugs. The antibiotic agents used in 35 cases included sulfadiazine, sulfathiazole, sulfanilamide and penicillin. There was no significant difference in mortality rate as between patients given penicillin, those who received the sulfa drugs and those for whom chemotherapy was not employed. It was found, however, that during the earlier years of the use of penicillin, therapy was usually instituted after complications were established, and the dosage administered was one-sixth to one-tenth the amount now regarded as adequate.

Complications. Forty-six postoperative complications occurred in the series (Chart 2). Of this number, peritonitis and its sequelae comprised 35 per cent and pulmonary complications 37 per cent. Wound infection and disruption (including two

TABLE 2.—*Per Cent of Total Mortality in Patients Receiving the Sulfa Drugs and Penicillin*

	No. of Cases	No. of Deaths	Mortality Rate (Per Cent)
Sulfadiazine, Sulfathiazole, Sulfanilamide	12	2	20
Penicillin	23	5	50
No drugs used	38	3	30

CHART 2.—POSTOPERATIVE COMPLICATIONS.

	NUMBER OF CASES															PER CENT
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
PERITONITIS																32.6
PNEUMONIA																10.9
PNEUMONITIS																17.7
MASSIVE ATELECTASIS																2.1
PARTIAL "																4.3
HYDROPS - GALLBLADDER																2.1
DUODENAL FISTULA																4.3
WOUND DEHISCENCE																6.5
" ABCESS																2.1
LOWER NEPH. NEPHROSIS																2.1
FECAL IMPACTION																4.3
CORONARY THROMBOSIS																2.1
EDEMA - LARYNX																2.1
OBST. SMALL BOWEL																2.1
SUBPHRENIC ABCESS																2.1
PULMONARY INFARCTION																2.1

cases of partial separation of the wound incident to duodenal fistula) made up 13 per cent of complications.

Forty-four (60 per cent) of the 73 patients in the series were free of postoperative complications following suture of the perforation. The interval of time from perforation to surgical intervention in 15 of the cases in which there were no complications was 10 to 18 hours. In two cases the interval was longer—28 hours in one and 30 hours in another. Of the 29 patients (40 per cent of the series) who had complications, 79 per cent had some degree of peritonitis and/or pulmonary complications. The time elapsing from perforation to surgical repair in this group was less than six hours in nine cases, 15 to 25 hours in ten cases, and above 25 hours in four cases. The mortality rate in patients with these complications was 35 per cent. It would appear, therefore, that the time interval between perforation and operation is not necessarily a contributory factor in the incidence of postoperative complications. As to mortality rate, however, it is equally obvious (Table 1) that the rate was considerably less in the cases in which operation was done within ten hours than in the cases in which the interval was longer.

The postoperative temperature record in cases of pulmonary or intraperitoneal infection was of interest. Generally the patient with pulmonary infection had a rapid rise in temperature to a range of 101° F. to 103° F. within the first 48 hours after operation. In subjects with primary peritonitis, the fever curve became significant in from three to eight days postoperatively, and the rise was gradual. This would indicate that when there is a sudden elevation of temperature within 48 hours after operation, pulmonary infection is the most likely cause.

Mortality Rate. There were ten deaths, a mortality rate of 13.7 per cent. McNealy and Howser[4] reported a mortality rate of 27 per cent in 700 cases they reviewed. Paletta,[5] in summarizing 26 series totaling 7,564 cases, found an average mortality rate of 26.8 per cent, while in a series of 83 cases he himself reported, the mortality rate was 17 per cent.

Five of the ten deaths were caused by peritonitis, two by pulmonary complications, and one each by duodenal fistula, shock and coronary thrombosis. Two of the ten patients who died were in the age group 30-40 years, five in the 40-50 group, two in the 50-60 group, and one in the 60-70 group.

The postoperative hospital period in 64 per cent was not greater than 15 days.

490 Post Street.

REFERENCES

1. DeBakey, M.: Acute perforated gastroduodenal ulceration; a statistical analysis and review of the literature, Surgery, 2:852-884, 1028-1076, Nov. 1940.

2. Estes, W. L., and Bennett, B. A.: Acute perforation in gastroduodenal ulcer; with special reference to end results, Ann. Surg., 119:321-338, March 1944.

3. Fallis, L. S.: Perforated peptic ulcer; an analysis of 100 cases, Am. J. Surg., 41:427, Sept. 1938.

4. McNealy, R. W., and Howser, J. W.: Perforation in peptic ulcer: a critical review of 700 cases, J. Internat. Coll. of Surgeons, 5:115-124, March-April 1942.

5. Paletta, F. X., and Hill, W. R.: Acute perforated gastric and duodenal ulcers, Surgery, 14:32-37, July 1943.

6. Shipley, E. R., and Walker, J. H.: Perforated gastric and duodenal ulcers: an analysis of 200 cases, Am. J. Surg., 77:329-337, Aug. 1949.

7. Treiger, P.: Acute gastroduodenal perforations; plan for postoperative treatment, Am. J. Surg., 74:459-461, Oct. 1947.

8. Walton, A. J.: In Nelson's Loose-Leaf Lining Surgery. Surgery of the stomach and duodenum (gastric and duodenal ulceration), 5:43, 1932.

Intracranial Tumors Simulating Vascular Lesions of the Brain

A Preliminary Report

David Hartson, M.D., *Los Angeles*

SUMMARY

Occasionally in the presence of atypical symptoms it is difficult to distinguish between cerebrovascular disorders and intracranial tumors. Intracranial tumor should be suspected in cases of atypical symptoms of vascular lesion or even in typical cases in which the patient does not show expected improvement.

In a group of eight cases the problem of differential diagnosis was not confined to those in which the patients were elderly. Furthermore, papilledema and elevated spinal fluid pressure were absent in all these cases. The absence of these signs, therefore, does not eliminate the possibility of an intracranial tumor.

The electroencephalogram is an important adjunct in differentiatial diagnosis. In this series, electroencephalograms lateralized the lesion correctly in every case and localized it in one. The importance of repeated electroencephalographic examination if wave patterns are normal in the first tracing was clearly illustrated in three instances.

Ventriculography, which in six cases finally established the diagnosis, and the site of the lesion, should not be postponed unnecessarily.

OCCASIONALLY encountered is a case in which, although all the earmarks of vascular lesion are present, the final diagnosis is intracranial tumor. Differentiation is especially difficult if there are manifest signs of peripheral and retinal arteriosclerosis or evidence of hypertensive-vascular and cardiorenal disease associated with indications of intracranial dysfunction. Even in those instances in which these signs are not present, but in which progressive hemiplegia with sensory impairment and mental changes occur without evidence of increased intracranial pressure, vascular lesion may be suspected. At times a glioma may remain silent for some time, then provoke a sudden apoplectic attack, so that the lesion may be mistaken for a cerebrovascular disorder.

Such problems in differential diagnosis have been a not uncommon experience at the Institute of Nervous Diseases. Within the past few years there have been a number of cases in which the tentative diagnosis was cerebrovascular accident, but in which an intracranial tumor ultimately proved to be the cause of the cerebral symptoms. For this reason it was thought to be of both interest and value to review the pertinent data and records of a selected group of eight of these patients in an effort to determine the sources of error in diagnosis. In this study an attempt has been made to evaluate certain features in the clinical history which have proven to be of differential value. Emphasis has also been placed on such special examinations as have served to establish the correct diagnosis.

There are not many reports in the literature on the subject of the simulation of cerebral vascular lesions by intracranial tumors, but it is clear that other investigators have had difficulty in differentiation. Hastings[2] reported 25 cases of intracranial tumor in which the cardinal symptoms of headache, vomiting, and choked disk were absent in a varying degree of 65, 76, and 100 per cent, respectively. In the circumstances, and since the patients were all 40 years of age and older, tumor was not suspected in any of the cases.

In considering the problem, Rabiner[4] pointed out that the gradual involvement of the motor control of one side of the body is indicative of a true cerebrovascular accident, whereas "piecemeal" hemiplegia, involving first one limb and then spreading to the face and the other limb, suggests an expanding lesion. He also concluded that Jacksonian seizures rarely, if ever, are produced by primary vascular disease.

The similarity of the symptoms produced by intracranial tumors and those caused by cerebrovascular disease was illustrated in a report of two cases by Arenson and Ginsberg[1] in which the tumors were masked by cerebral arteriosclerosis. These investigators stressed the importance of frequent examinations of the ocular fundi and of spinal punctures, as well as the use of x-ray examination of the skull, particularly after the injection of air.

Marshall[3] reported a series of 17 cases of intracranial tumor in which an erroneous diagnosis had been made. The conditions simulated were many, varying from hysteria to toxic psychosis and including such vascular lesions as cerebral arteriosclerosis, hemorrhage, and softening incident to thrombosis of the larger cerebral arteries. Marshall concluded that one reason for the failure to make the correct diagnosis was a lack of "brain tumor consciousness." Apparently electroencephalographic examination had not been used in any of the cases. The value of roentgenologic examination of the skull and a study of the dynamics of the cerebrospinal fluid was stressed.

From the Institute of Nervous Diseases, College of Medical Evangelists, Los Angeles.

Presented before the Section on Psychiatry and Neurology at the 79th Annual Session of the California Medical Association, April 30-May 3, 1950, San Diego.

Weisz[5] reached the conclusion that definite clinical criteria cannot be laid down and that each individual problem must be evaluated according to the facts at hand. He stated that a critical study of detailed chronological data will often suggest either a tumor or a vascular lesion and that the diagnosis of the latter should not be considered established unless the results of examination and the clinical course are consistent with cerebrovascular disorder.

In the following section, an effort has been made to epitomize the essential features in eight cases in which the more important clinical problems encountered by the author occurred:

Case 1: A white woman, 45 years of age, complained of unsystematized dizziness, left frontal headaches, left-sided paresthesias, and a poor memory for five weeks. When a mild degree of anomia and motor aphasia together with anisocoria and a right lower facial weakness were found to be associated with positive reaction for syphilis in a Wassermann test of the spinal fluid, the diagnosis of multiple vascular lesions incident to meningovascular syphilis seemed most likely. The presence of a tumor, possibly metatastic, was considered, however. The patient became progressively worse on a program of antiluetic therapy. An electroencephalogram showed focal dysrhythmia and phase reversal activity in the left temporal lobe. A ventriculogram indicated an expanding lesion in the left temporal lobe; a glioma (ganglioglioma) was observed at operation and was incompletely removed.

Comment: The symptoms suggestive of multiple lesions and the initial positive reaction in a Wassermann test of the spinal fluid were misleading in this case, and only a recheck of the serological test and the progressive course demanded consideration of another diagnosis. The electroencephalogram suggested a single lesion and localized it. The presence of a tumor was established by ventricular studies.

Case 2: An 83-year-old woman was admitted to the hospital with left hemiparesis of short duration. The history and results of examinations were consistent with a right-sided subdural hematoma. The patient promptly improved, however, and was dismissed without operation. An electroencephalogram at the time was normal. Two months later the patient reentered the hospital with a well-defined left homonymous hemianopia and left hemiparesis. She was believed to have thrombosis of the right middle cerebral artery, although subdural hematoma, or a space-occupying lesion were not considered to be excluded. An electroencephalogram now showed a right parieto-frontotemporal dysrhythmia. Angiography further suggested an expanding mass lesion in the frontoparietal area. The patient's condition became so critical following angiography that ventriculography was considered too hazardous. The patient died soon thereafter. At autopsy, isolated gliomas (glioblastomas multiforme) were observed in both hemispheres.*

Comment: In retrospect, it now seems clear that subdural hematoma should have been excluded at the outset by direct visualization. The normal electroencephalogram then would not have been so impressive, and air studies or an angiogram would have been the logical procedure. The unwillingness of the family to have any major procedures done in view of the advanced age of the patient is scant comfort for the failure in diagnosis.

*A son of this patient, also studied at the Institute, had a right acoustic neurofibroma.

Case 3: A 31-year-old housewife complained of auditory hallucinations and left-sided sensory seizures for a period of ten months. No abnormalities that might account for the symptoms were observed upon examination. The cause was considered to be either a vascular anomaly or a tumor in the right temporoparietal region. A normal electroencephalogram and twice-confirmed (angiography) occlusion by thrombosis of the right carotid artery only increased the suspicion of a vascular disturbance of the right cerebral hemisphere. The patient did not improve on a medical regimen during the following year. In another electroencephalogram there was phase reversal in the right temporal leads. A ventriculogram suggested an expanding lesion in the parietal region. At operation an astrocytoma of the right temporal lobe was resected.

Comment: A normal electroencephalogram does not necessarily exclude the presence of an intracranial tumor. In this case the discovery by angiography of a thrombosed internal carotid artery was also misleading, suggesting a vascular condition. The factor which led to the discovery of a tumor was the progressive clinical course and a second electroencephalogram.

Case 4: The patient was a man 55 years of age. The rather sudden onset, five weeks previous to admission, of left hemiplegia, with temporary improvement, suggested an occlusion of the right middle cerebral artery. Normal blood pressure and the absence of papilledema further implied such a lesion. Fronto-occipital headaches and mild mental dullness were the only signs that indicated a possible increase in intracranial pressure. An electroencephalogram showed delta waves and phase reversal in the right frontal leads. A ventriculogram disclosed a mass lesion in the right parietal lobe. At operation a metastatic lesion in the postparietal lobe was resected. Although extensive search was made the primary site was not found.

Comment: In this case the electroencephalogram showed correct lateralization, but of course did not show the precise nature of the lesion. Only ventricular studies were useful in demonstrating the true expanding nature of the lesion.

Case 5: A 62-year-old man was thought to have a thrombosis of the left middle cerebral artery because of apraxia and weakness on the right side of somewhat slow evolution. There were no symptoms or signs of increased intracranial pressure. An electroencephalogram showed dysrhythmia of the entire left side. Air studies indicated a shift of the ventricular pattern toward the right with downward displacement of the lateral ventricle. Glioblastoma multiforme of the left frontal lobe was observed in a biopsy specimen.

Comment: In this case the patient, suspected of having an occlusive vascular lesion, did not improve on a medical program. An electroencephalogram lateralized the lesion correctly but did not show its precise location. Again a ventriculogram was necessary to disclose the true nature of the lesion.

Case 6: A 64-year-old Italian male had a history of progressive left hemiparesis and convulsions, limited to the left side of the face, for two months. He had been stuporous for ten days. On admission the patient was acutely ill. The blood pressure was 140 mm. of mercury systolic and 86 mm. diastolic, and the pulse rate 120 per minute. The temperature was 101.4° F. Papilledema and other signs of pressure were absent. The electroencephalogram showed phase reversal activity in the left parieto-occipital leads. In ventriculogram a shift to the left, without distortion, was observed. At opera-

tion, a glioma (ganglioglioma) was found deep in the right temporal lobe.

Comment: The normal blood pressure, the absence of signs of increased intracranial pressure, the completeness of the hemiparesis, together with the appearance of acute illness, the elevated temperature, and the loss of consciousness suggested an extensive softening of the right hemisphere incident to vascular occlusion. On the other hand, the left-sided facial seizures, which temporarily aggravated the progressive left hemiplegia over a two-month period, were more suggestive of intracranial tumor. The electroencephalogram, moreover, was confusing because dysrhythmia was contralateral.

Case 7: For 18 months a 31-year-old housewife had had sharp throbbing pains, extending from the right arm to the right ear, together with right hemiparesis. Convulsive movements of the right thigh were also occasionally experienced. The blood pressure was 110 mm. of mercury systolic and 80 mm. diastolic. There was no papilledema or sensory impairment. When the patient did not improve in six weeks on a medical program, she was admitted to the hospital. An electroencephalogram showed a minor left temporal dysrhythmia. In spite of suggestive obstruction of the left internal carotid artery, the angiogram showed some abnormal vessels in the left parietal region. The patient suddenly died on the second hospital day. A cystic astrocytoma of the left parietal lobe was observed at autopsy.

Comment: Although it was believed at the time of the first examination that a tumor of the left frontal lobe could not be entirely excluded, the first impression was that the symptoms were caused by hemorrhage, perhaps from a vascular anomaly in the region of the left thalamus. In retrospect, it seems logical that the patient's age, the duration of the symptoms, and the convulsive jerking of the right hip should have suggested further investigation at the time she was first observed. When finally the patient was hospitalized the electroencephalogram correctly lateralized the lesion while the angiogram precisely localized it.

Case 8: A 66-year-old Caucasian woman had left hemonymous hemianopia and left spastic hemiplegia of three weeks' duration. The blood pressure was 120 mm. of mercury systolic and 70 mm. diastolic. There was no papilledema or other sign of increased intracranial pressure. An electroencephalogram showed a definite right-sided dysrhythmia. In a ventriculogram a right temporoparietal expanding lesion was observed. At operation a cystic glioma (glioblastoma multiforme) was verified and a nodule was removed from the wall of the cyst.

Comment: The age of the patient and the neurological findings suggested an extensive softening due to vascular occlusion of the right cerebral hemisphere. This was especially indicated in the absence of any signs of increased intracranial pressure. The clinical course was a little too long (three weeks) for the ordinary occlusive lesion, and it was concluded that an intracranial expanding lesion was to be considered. To further confuse the picture, the history of a fall five months earlier suggested the possibility of subdural hematoma or hygroma. An electroencephalogram and a ventriculogram established the diagnosis.

GENERAL CONSIDERATIONS

Of the eight patients reported upon, four were below 55 and four above 62 years of age. In the younger age group two patients were 31 and one was 45 years of age. This fact suggests that the problem of differentiating cerebral vascular lesions from tumors may arise in younger persons and not only in the older age group as frequently has been stated.

The types of vascular lesions simulated in these cases were meningovascular syphilis, subdural hematoma, carotid artery thrombosis with impaired cerebral circulation, hemorrhage into the thalamus, and thrombosis of the middle cerebral artery or its branches. In seven cases the tumors provoking the symptoms were gliomas—ganglioglioma in two cases, astrocytoma in two, and glioblastoma multiforme in three cases (in one of which the growths were multiple, primary tumors). In the eighth case the lesion was metastatic tumor, the primary site of which could not be found.

Only in two cases (Cases 6 and 7) did focal seizures suggest the presence of neoplasm. In one other case (Case 4) occipitofrontal headaches along with mental obtuseness suggested a tumor. The "piecemeal" hemiplegia described in the literature was illustrated in Case 7.

In only three of the five cases in which tumor was considered initially in differential diagnosis was there lateralizing disturbance of the electroencephalogram wave pattern. However, in all eight cases the lesions were ultimately lateralized or localized by electroencephalogram tracings. It appears certain that electroencephalography, when correctly interpreted, may be depended upon to serve as one of the instrumental factors in differentiating tumors from atypical vascular phenomena.

In two of the cases the demonstration of thrombosis of the carotid arteries by angiogram was misleading, suggesting that an impairment of the circulation of the lateral cerebral hemisphere was the cause of the symptoms.

Papilledema and increased cerebrospinal fluid pressure were conspicuously absent throughout the course in all the patients, although one of them was observed for 18 months and another for ten months.

In six of the eight cases, final and conclusive proof of the nature and location of the causative lesion was given by ventriculogram.

1801 New Jersey Street.

REFERENCES

1. Arenson, N., and Ginsberg, S. T.: Brain tumor masked by cerebral arteriosclerosis; two cases, M. Bull. Vet. Admin., 18:322-325, Jan. 1942.

2. Hastings, G. W.: Difficulties in differential diagnosis of brain tumor in older age groups, J. Nerv. & Ment. Dis., 89:44-51, Jan. 1939.

3. Marshall, M. Y.: Erroneous diagnosis of brain tumor; report of 17 cases, M. Bull. Vet. Admin., 20:253-273, Jan. 1944.

4. Rabiner, A. M.: Brain tumor simulating primary cerebral vascular disease; clinical criteria for differential diagnosis, M. Times, New York, 68:455-458, Oct. 1940.

5. Weisz, S.: Brain tumor and cerebral vascular disorders (differential diagnosis), Dis. Nerv. System, 8:23-26, Jan. 1947.

Studies of the "Antihistaminic" Effect of Pyribenzamine Administered by Various Routes

Paul LeVan, M.D., Thomas H. Sternberg, M.D., and Daniel J. Perry, M.D., *Los Angeles*

SUMMARY

Utilizing histamine electrophoresis, the degree and duration of "antihistaminic" effect of varying doses of Pyribenzamine® administered by different routes were studied.

Delayed action Pyribenzamine in 50 mg. and 100 mg. dosage exerted a small but measurable anti-wheaIing effect five hours after ingestion. The larger dose exerted approximately twice the effect of the smaller. The anti-wheaIing activity lasted five to six hours.

Pyribenzamine given intravenously affected the wheaIing response one hour after administration. A peak of activity was reached two to two and a half hours after injection, and "antihistaminic" effect continued for a total of five hours.

The inunction of 250 mg. and 500 mg. of Pyribenzamine in an ointment base resulted in sufficient absorption of the drug to produce a measurable anti-wheaIing effect. The "antihistaminic" activity was noted three hours after application and lasted 10 to 12 hours from the time of inunction.

SINCE the introduction of the first "antihistaminic" compound by Fourneau and Bovet in 1933 an almost limitless number of related and similarly acting compounds have become available. A variety of methods of administration, including oral, intravenous, inhalation, and topical routes, have been used. Despite the widespread use of these drugs and their administration by various methods, little is known about the exact manner in which they function in man. The time interval between administration and therapeutic effect, the duration of activity, the degree of "antihistaminic" action in relation to dosage, and the influence of method of administration, have not been completely studied in human beings. To obtain further data concerning these factors, the present study was undertaken.

From the Medical Service, Wadsworth Hospital, Veterans Administration Center and the Department of Medicine, University of California, Los Angeles 24, California.

Aided by a grant from the Ciba Pharmaceutical Company, Summit, New Jersey.

Reviewed by the Veterans Administration and published with the approval of the Chief Medical Director. The statements and conclusions of the authors are the result of their own study and do not necessarily reflect the opinion or policy of the Veterans Administration.

Presented before the Section on Dermatology and Syphilology at the 79th Annual Session of the California Medical Association, April 30-May 3, 1950, San Diego.

MATERIALS AND METHODS

Pyribenzamine® was administered to groups of ten subjects each in varying dosage by several routes. The "antihistaminic" effect in each instance was measured by histamine electrophoresis, a method described in detail by Cohen and Friedman.[1] Sternberg, Perry and LeVan[3] used this technique with modifications to determine the comparative "antihistaminic" activity of 13 commercially available "antihistaminic" drugs administered orally. Briefly, the method utilizes a 2-milliampere current for two minutes to introduce serial dilutions of histamine base into the skin of the flexor surface of the forearm. That dilution which produces diffuse wheaIing at the site of the positive electrode is considered to be the initial threshold dilution. This is not an actual quantitative determination of the amount of histamine base entering the skin but represents the concentration of histamine base per cubic centimeter of solution necessary to produce a wheaIing reaction. The "antihistamine" to be tested is then given and wheaIing threshold determinations made at varying intervals depending upon the route of administration of the drug. "Antihistaminic" activity is manifested by a raising of the threshold—that is, a more concentrated solution is necessary to produce diffuse wheaIing. The difference in micrograms of histamine base per cubic centimeter of solution between the initial threshold concentration and the subsequent threshold concentrations represents the amount of histamine base "blocked" by the "antihistaminic" drug administered.

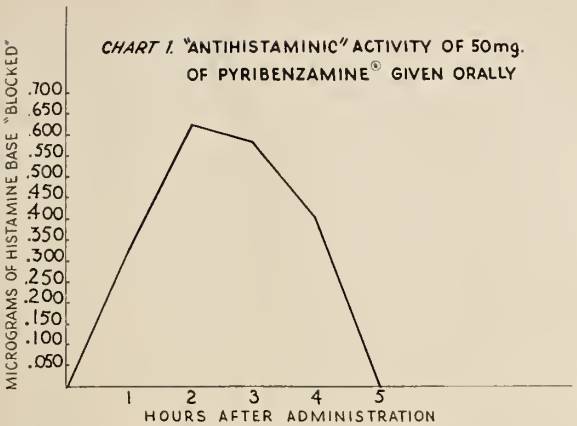
Using this method, Perry and Hearin[2] determined the degree and duration of the "antihistaminic" activity of 50 mg. of orally administered Pyribenzamine. The results of that study are shown in Chart 1.

It will be noted that the "antihistaminic" activity of Pyribenzamine orally administered reaches a maximum of 0.63 micrograms of histamine base "blocked" two hours after ingestion. This activity is maintained for another hour and decreases by the fourth hour; in five hours no effect can be measured.

RESULTS

Histamine electrophoresis, as described, was used to measure "antihistaminic" activity in the following studies:

1. Orally administered enteric coated (delayed-action) tablets of Pyribenzamine in 50 and 100 mg. doses were given to two groups of ten subjects each.



Whealing thresholds were determined at hourly intervals for periods ranging up to 12 hours.

2. Pyribenzamine was injected intravenously in 1 cc. and 2 cc. doses into 20 subjects, ten subjects receiving 25 mg. and ten subjects 50 mg. of the drug. Threshold determinations were done at half-hour intervals.

3. Cutaneous absorption of Pyribenzamine was studied by the inunction of 5 gm. and 10 gm. of a 5 per cent Pyribenzamine ointment* containing 250 mg. and 500 mg. of Pyribenzamine respectively. The ointment was applied to the inner aspects of the thighs of twenty subjects, ten in each group. Whealing thresholds were determined hourly up to 12 hours.

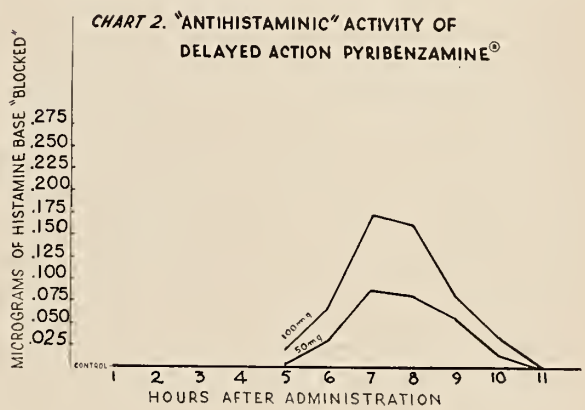
The difference between the initial and subsequent whealing threshold reactions, expressed in micrograms of histamine base per cubic centimeter of solution, were averaged for each of the groups studied. Placebo controls were given to groups of ten subjects each by the routes of administration used in this experiment. The subjects were males, white and negro, between 20 and 49 years of age. They received no oral medication for 24 hours before testing.

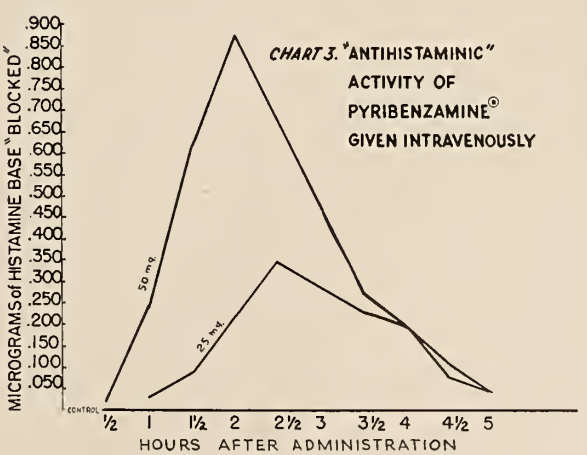
The results obtained by the oral administration of 50 and 100 mg. of delayed action Pyribenzamine are shown in Chart 2. A latent period of about five hours followed the ingestion of the drug. In six hours "antihistaminic" effect was manifested and reached a peak seven hours after the compound was taken. This maximum effect was 0.085 micrograms of histamine base "blocked" by administration of 50 mg. and 0.175 micrograms "blocked" by 100 mg. of delayed action Pyribenzamine. "Antihistaminic" activity was manifested up to ten hours after administration of the drug and for a period of five hours from the time its activity could first be measured by the method used. It will be noted in the chart that considerably more "antihistaminic" effect was obtained when a larger dose was given, but in both instances the form of the curve and the time relationships were identical. In control subjects receiving an oral placebo there was no change in the whealing threshold during a similar time period.

The "antihistaminic" effect obtained by the intravenous injection of 25 mg. and 50 mg. of Pyribenzamine is shown in Chart 3. A preparation of normal saline solution containing 25 mg. of Pyribenzamine per cubic centimeter was used. Thresholds were determined at one-half hour intervals. It will be noted that little measurable "antihistaminic" effect was present one-half hour after administration of 50 mg. of Pyribenzamine. The peaks of "antihistaminic" activity—0.88 and 0.35 micrograms of histamine base per cubic centimeter "blocked" by 50 mg. and 25 mg. of Pyribenzamine, respectively—were reached in two to two and a half hours. The 50 mg. dose resulted in considerably more "antihistaminic" activity than did the 25 mg. dose, although the duration of activity was the same, approximately five hours.

The ten control subjects, given 2 cc. of normal saline solution by injection, had no change in whealing threshold during a similar period.

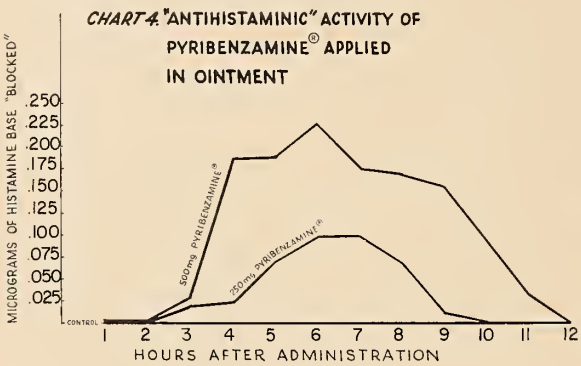
One group of ten subjects was given 250 mg. of Pyribenzamine in a 5 per cent ointment by inunction and another group of ten was given 500 mg. by the same route. The ointment was thoroughly rubbed





*The ointment base consisted of cholesterol, stearyl alcohol, lanolin anhydrous, white petrolatum and white wax.

into the inner aspect of the thighs for a five-minute period. Threshold determinations were done at hourly intervals. A latent period of about three hours was evident (Chart 4) followed by a measurable "antihistaminic" effect. The peaks of activity —0.100 and 0.225 micrograms of histamine per cubic centimeter "blocked" by 250 and 500 mg. of Pyribenzamine, respectively—were reached six hours from the time of inunction. "Antihistaminic" activity was measurable up until nine hours following the application of 250 mg. of Pyribenzamine and eleven hours after the application of 500 mg. Ten subjects treated with the ointment base alone had no change in the whealing thresholds.



DISCUSSION

The "antihistaminic" effect of 50 mg. and 100 mg. of "delayed action" Pyribenzamine tablets as measured by histamine electrophoresis is less than that of the more rapidly absorbed 50 mg. tablet. In a previous study the authors demonstrated a peak of "antihistaminic" activity—0.7 micrograms of histamine base "blocked"—two hours following the oral ingestion of the more rapidly acting 50 mg. tablet. As shown in Chart 2, delayed action Pyribenzamine in 50 mg. dosage exerted an "antihistaminic" effect of 0.085 micrograms of histamine base "blocked" while 100 mg. resulted in a "blocking" effect of 0.175 micrograms. The peak of "antihistaminic" activity of delayed action Pyribenzamine was reached seven hours after ingestion of the drug. Previous studies of the disintegration time of the enteric coated tablets used in this experiment indicate that the release of Pyribenzamine begins approximately five hours after ingestion. However, the coating has been designed to perforate slowly rather than to completely disintegrate within a short period of time. Hence only small amounts of Pyribenzamine are released at any given time. It appears likely that a greater degree of "antihistaminic" effect would be measurable if the enteric coating were to disintegrate rapidly after an initial four- to five-hour delay.

As shown in Chart 3, the intravenous administration of 50 mg. of Pyribenzamine resulted in a pronounced degree of "antihistaminic" activity. A peak of 0.88 micrograms was reached two hours after injection, as compared to a peak of 0.7 micrograms two hours after the oral administration of the 50 mg. rapidly acting tablet. Intravenous injection of 25 mg. resulted in a peak of activity of 0.345 micrograms of histamine base "blocked." A latent period of one-half hour to one hour followed the injection of the drug irrespective of dosage. This suggests the possibility that Pyribenzamine must first undergo a metabolic change before it causes antiwhealing activity. Further clarification of this phenomenon is desirable. The five-hour duration of activity observed with orally ingested Pyribenzamine was likewise present following intravenous administration.

All of the persons receiving intravenous Pyribenzamine noted subjective effects in varying degree. These included vertigo, drowsiness, a sense of relaxation, nausea, and consciousness of respiration. Subjective effects were noted with both 25 mg. and 50 mg. doses of Pyribenzamine and appeared shortly after administration of the drug. Rapid injection produced more pronounced symptoms than did slow introduction of the Pyribenzamine. The symptoms persisted for periods ranging between 45 minutes and four hours. One of the most frequently observed effects was the complete relaxation experienced by many of the subjects. Several subjects remarked upon a sense of well-being with complete loss of nervous tension. This effect, if obtained consistently, might prove desirable in clinical syndromes of allergic disease characterized by apprehension and nervous tension. There were no local reactions observed at the sites of injection.

As shown in Chart 4, the inunction of 10 gm. of an ointment containing 500 mg. of Pyribenzamine into the thighs of ten subjects produced a measurable anti-whealing effect three hours after application. A peak of "antihistaminic" activity expressed as 0.23 micrograms of base "blocked" was reached six hours after inunction. Anti-whealing effect was measurable up to eleven hours after the ointment was applied. A similar response of lesser degree was obtained with 250 mg. of Pyribenzamine in 5 gm. of ointment. A peak of "antihistaminic" activity —expressed as 0.1 micrograms of histamine base "blocked"—was likewise reached six hours after the application. Anti-whealing effect was measurable up to eight hours following inunction. Several subjects complained of drowsiness, but it was difficult to determine whether or not this was due to the Pyribenzamine. Acute dermatitis developed in one instance three hours after the application of 10 gm. of 5 per cent ointment. The subject in whom this occurred was withdrawn from the test group.

From the foregoing it is evident that significant amounts of Pyribenzamine are absorbed through the skin. The use of Pyribenzamine ointment over large areas of the body may be expected to produce drowsiness, vertigo, and other side effects of Pyribenzamine. Sternberg and Taylor,[4] among others, have demonstrated the ability of topically applied Pyribenzamine to filter out ultra violet radiation. However, use of the drug in a prophylactic sunburn

lotion or cream is deemed inadvisable because of the significant degree of cutaneous absorption as well as possible sensitization to the drug.

The authors wish to emphasize that the electrophoretic method of measuring "antihistaminic" effect utilizes the whealing reaction. It is believed that the amount of histamine necessary to produce whealing is greater than the minimal amount of histamine capable of producing other allergic phenomena. Hence, satisfactory therapeutic effects may be obtained at "antihistaminic" levels well below the peaks of activity demonstrated in this study. Further, other reported actions of "antihistaminic" drugs, such as anti-acetylcholine, sympathomimetic or sympatholytic effects not studied in this experiment, may play a therapeutic role in allergic syndromes.

6317 Wilshire Boulevard.

REFERENCES

1. Cohen, M. B., and Friedman, H. J.: Immunity against H-substance, Journal of Allergy, 15:245, July 1944.

2. Perry, D. J., and Hearin, D. L.: Experimental determination in human subjects of the duration of "antihistaminic" activity of orally administered compounds, Journal of Investigative Dermatology, 13: No. 1, 1949.

3. Sternberg, T. H., Perry, D. J., and LeVan, P.: "Antihistaminic drugs": Comparative activity using histamine iontophoresis in human subjects, J.A.M.A., 142:969, April 1, 1950.

4. Sternberg, T. H., Taylor, D. R.: Ultraviolet filtering properties of Pyribenzamine, personal communication.

Discussion by Molleurus Couperus, M.D., *Los Angeles*

I have enjoyed this paper very much. The authors have emphasized again the need for a dependable quantitative method by which we can measure the antihistaminic activity of various compounds. It is evident from the results of many workers that the experimental antihistaminic activity of the various drugs now available is not necessarily a dependable guide to the therapeutic value of such drugs in clinical medicine; those giving experimentally the best results may not rank that high when subjected to clinical evaluation. Even the degree of effectiveness in preventing whealing from histamine cannot be translated directly into a comparable effectiveness in the treatment of urticaria. In spite of this limitation, the methods at present available for the study of antihistaminic activity have been of inestimable value, and with continued work such as has been reported in this paper more reliable results will be obtained.

Doctors LeVan, Sternberg and Perry have employed iontophoresis to introduce histamine into the skin, which has also been used by a number of other workers with satisfaction. In evaluating the results reported in this paper, we must remember that the rate and degree of absorption from the gastrointestinal tract of the orally administered antihistaminic are subject to marked variation, and only a large series would give us reliable results when using this route. The inunction method would be subject to similar variation in transepidermal absorption. These variable factors might be avoided perhaps to a large degree by injecting the histamine and its antagonists simultaneously into the skin, using a sufficient number of control injections of each in each individual. Nilzen employed this method with great satisfaction, using 0.05 cc. of the combined material intradermally. One might also introduce both the histamine and the antihistaminic by iontophoresis if one wants to avoid injection technique.

The "Slipped Elbow" of Young Children

Thomas C. McVeagh, M.D., *South San Francisco*

SUMMARY

"Slipped elbow" is essentially a distal subluxation of the head of the radius, caused by traction in the forearm, occurring in young children. It is easily reduced by the manipulation described. Although spontaneous reduction may occur during sleep, neglect may result in deformity of the elbow.

"SLIPPED ELBOW" is a fairly frequent traumatic condition which is apparently not generally recognized or diagnosed. It has been called by various names, including "Malgaigne's luxation," "dislocation of the radius by elongation," "the subluxation of young children," or "the painful pronation of young children." The features of this injury have been well described in the literature, running as far back as 1671 (Fournier), but the more recent orthopedic texts make little or no reference to it.

The patient is usually a child under three years of age, although cases have been described in patients as old as six years. Usually the cause of injury is that the child was either lifted by one wrist or, while walking with his hand in that of an adult, stumbled and was supported by the adult, pulling on the arm. Following such an incident the child usually cries out in pain and refuses to use the arm, which may hang motionless by the side or be held supported with the elbow slightly flexed across the front of the abdomen with the forearm in pronation. With the exception of supination, which is resisted by the child, all passive motions of the elbow joint affected appear to be painless. An interesting aspect of the injury is that almost invariably the person who takes the child to a physician thinks that the injury is in the shoulder rather than in the elbow.

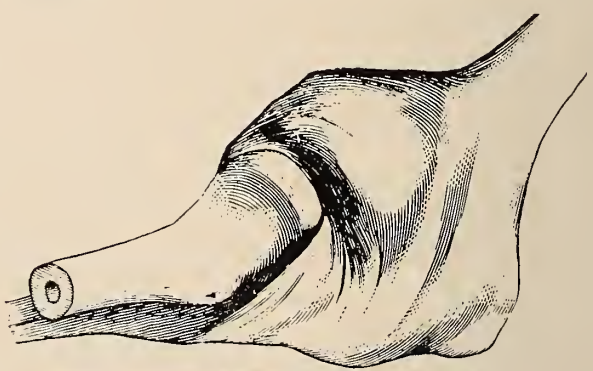
The mechanism of the injury appears to be that of subluxation of the head of the radius, which is drawn distally and anteriorly, the anterior edge of the radial head engaging below the lower border of the annular ligament. It is believed also that the posterior portion of the capsule is forced in by atmospheric pressure and becomes pinched between the head of the radius and the capitellum.

Because this condition occurs most frequently between the ages of one and three years and almost never at a greater age than six years, it appears reasonable to assume that the joint structures in children of the ages mentioned are sufficiently lax to permit of the subluxation and that this laxity diminishes as the joint tissues mature. It appears likely that in many instances such luxations reduce spontaneously in the relaxation of sleep.[2] The author is inclined to believe, however, that in some cases the luxation does not reduce without manipulation and that the end result may be a deformity of the elbow (Figure 4). Blodgett[1] reported two cases of "congenital luxation of the head of the radius" which appear to fall in this classification. In both cases the head of the radius was in anterior position and there was deformity. Blodgett analyzed and discussed reports in the literature of 51 similar cases. It appears evident, therefore, that the consequences of this ordinarily simple condition may occasionally be serious. The earlier literature on the mechanism of this injury was well summarized by Stimson[3] in a volume published in 1907, from which the accompanying anatomical figure is reproduced (Figure 1).

TREATMENT

Upon gentle supination of the forearm, usually assisted by flexion at the elbow, there is an audible click, following which the child is able to use the elbow without apparent discomfort. In order to reassure the parent, it is usual to put the affected arm in a sling for a few hours; in lieu of the sling, the child's sleeve may be pinned to its clothing for temporary support.

In the outpatient department of South San Francisco Hospital six cases of slipped elbow have been observed in the past four years. Two cases appear to be of particular interest, one because the condition was recurrent and the other because of a rather pronounced elbow deformity which apparently was the late result of an unreduced dislocation of this character.



Subluxation of the head of the radius. (Pingaud.)

Figure 1.—Anatomy of "slipped elbow."

From the Department of Surgery, South San Francisco Hospital.

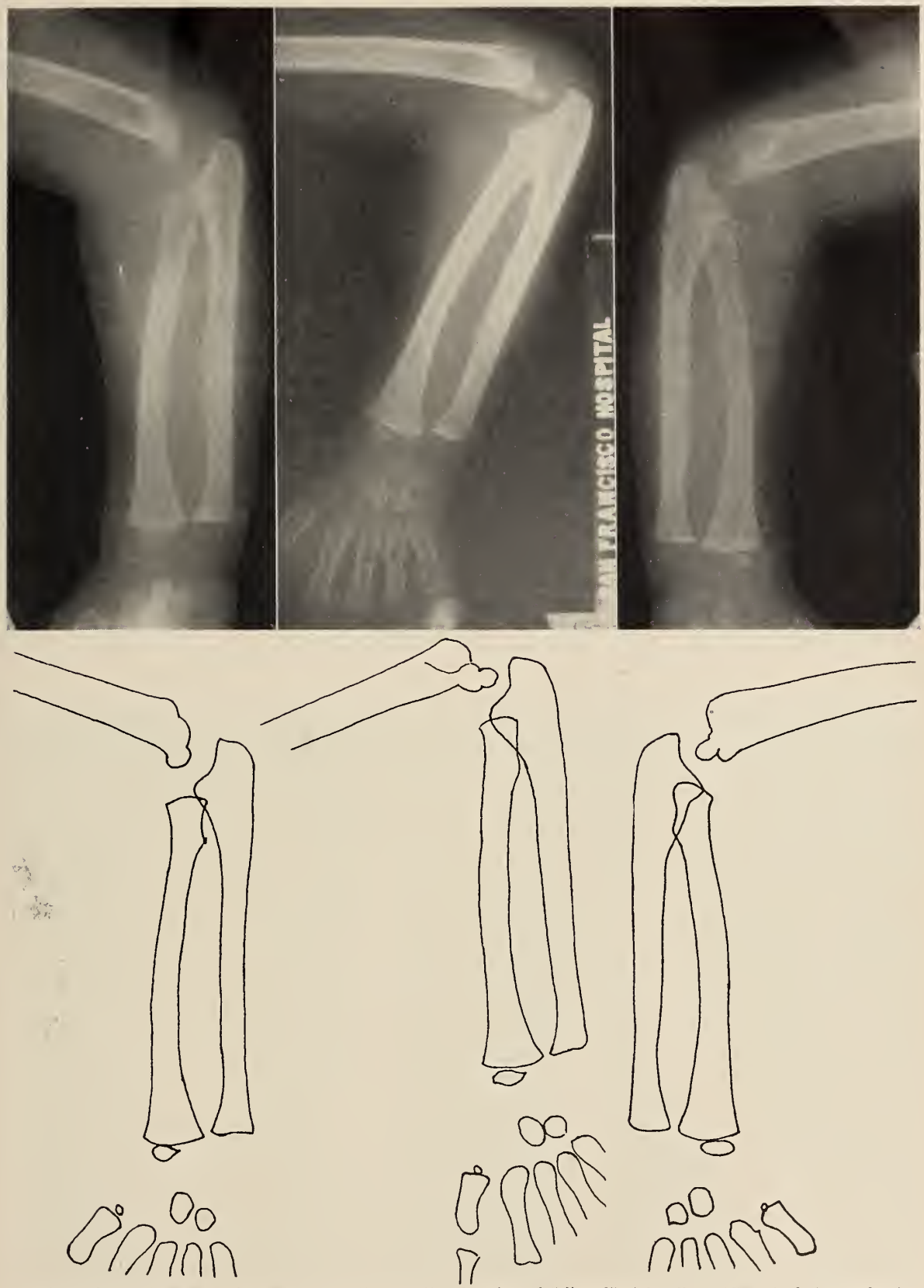


Figure 2.—*Left, upper and lower:* X-ray film and line drawing of "slipped" right elbow (Case 1) before reduction. *Center, upper and lower:* Same elbow after reduction. *Right, upper and lower:* Normal left elbow of same patient for purposes of comparison.

CASE REPORTS

CASE 1: The patient, a girl three years of age, was said to have hurt her right arm while playing with her father. She had been riding on her father's back, and her right arm was pulled around his neck to keep her from falling. When first observed the patient was supporting her right arm with her left hand, the right forearm being in flexion and held across the front of the body in pronation. All passive movements of the elbow were painless, with the exception of supination, which was resisted. The usual gentle flexion and supination gave immediate reduction, with an audible click and complete relief of disability. According to the history given by the mother, the patient had had three similar incidents at the age of two and another at the age of two and one-half, making five in all. X-ray films taken elsewhere during the last previous incident had been reported as normal. Comparison of preoperative and postoperative x-ray films (Figure 2) indicated the very slight degree of lateral displacement of the head of the radius on the ulna.

* * *

CASE 2: A "lump" on the left elbow was noted in the course of a physical examination of a boy 13 years of age, but the origin of the condition was not recognized at that time. Two years later when the patient was recalled for specific examination of the deformity there was 20 degrees' loss of extension and 45 degrees' loss of supination in the joint, but no impairment of either flexion or pronation, and the patient made no complaint of pain. In x-ray films (Figure 3) it was noted that the prominence derived from the head of the radius and was due to dislocation rather than to overgrowth, inasmuch as the roentgenographs showed that right and left radii were approximately equal in length. The x-ray films in this case are quite similar to those presented by Blodgett[1] in a report of cases of so-called congenital luxation.

500 Grand Avenue.

REFERENCES

1. Blodgett, W. E.: Congenital luxation of the head of the radius, Am. J. Orthop. Surg., 3:253-270, Jan. 1906.

2. Cleary, E. W.: Personal communication.

3. Stimson, A.: Fractures and Dislocations. New York, Lea Brothers & Company, 1907.

Figure 3.—Deformity of left elbow (Case 2), probably as sequel of unreduced "slipped elbow."

Figure 4.—*Left:* Deformity of elbow (Case 2). *Center:* X-ray film of deformed elbow. *Right:* X-ray film of normal right elbow, same patient.

Pterygia

Etiologic Theories, Methods of Treatment, and Results

R. E. Bartlett, M.D., and C. S. Mumma, M.D., *Los Angeles*

SUMMARY

Although it has been postulated that a pterygium develops from the ordinary pinguecula which is a phenomenon of aging, the average age of patients in a Veterans Administration hospital who were operated upon for removal of pterygia was 34.9 years. Mexicans appeared to be particularly susceptible to the disease. Analysis of the literature and review of observations in the present series of cases indicated that long-continued exposure to the elements, particularly the sun's rays, is a prime etiologic factor and that dust and other irritants are of less importance.

In a study of 285 patients who had pterygia, no correlation of this disease with other local or general disease was observed.

An operation which brings previously unexposed conjunctiva into the area from which a pterygium is removed, and which does not bury the epithelium, was used successfully.

THE majority of patients with pterygia apparently are not thoroughly examined for concomitant disabilities. There are few statistical reports in the American literature.[3, 8, 10, 12, 16] The records of the patients with pterygia at Wadsworth General Hospital, Veterans Administration, Los Angeles, since 1938 have been reviewed. Besides examination of the eyes, complete histories were taken and physical examination was carried out in all cases, in addition to routine laboratory tests, x-rays of the chest and special consultations when indicated.

REVIEW OF THE LITERATURE

A review of the literature regarding pterygia leaves rather an inconsistent and confusing picture. Fuchs[7] in his classic work observed that Bowman's membrane was split and torn by advancing cellular connective tissue. He assumed this was a primary invasion of connective tissue from a pinguecula at the limbus. Schoninger,[15] however, stated that this invasion was secondary to degenerative changes in the cornea just in advance of the invasive connective tissue. Duke-Elder[4] stated that because of the "influence of Fuchs' paper, pterygia were generally classified among conjunctival degenerations, but in the light of the early changes in the cornea, demonstrated biomicroscopically and histopathologically, particularly by Schoninger (1926), it is evident that it should be classed among degenerative diseases of the latter tissue." He stated that "exposure to wind and dust [is an] important predisposing factor," and that, "with rare exceptions [a pterygium], starts over the area of a pinguecula, although it cannot be classed as an extension of the same process." The average age of patients with pterygia operated upon by the authors was 34.9 years, although the pinguecula from which a pterygium usually arises is said to be essentially a change of aging. Duke-Elder,[5] citing a study of 924 persons by Hinnen (1921), noted that pinguecula was not observed in any person less than ten years of age; the condition was present in only 7 per cent of persons less than 20 years of age; the incidence then increased: In persons between the ages of 50 and 60 the incidence was 87 per cent, and in persons over 80 almost 100 per cent.

As a pterygium does not usually occur before the age of 20, apparently the external portion of the conjunctiva must be exposed to the elements for a number of years to cause development of the lesion. A somewhat parallel condition occurs in the skin. According to Becker and Obermayer,[1] "Degenerative senile atrophy occurs in predisposed individuals as a result of long continued repeated exposure to the elements, especially ultraviolet light in sufficient amounts to produce sunburn. The chief change is in the elastic fibers which are thickened and form in severe cases, a thick layer in the superficial dermis, interspersed with collagen fibers."

In "Diseases of the Eye" by Parsons and Duke-Elder,[14] Fuchs is quoted as saying that a pterygium is derived from a pinguecula and prolonged exposure. May[11] mentioned that it usually occurs in elderly persons who are exposed to dust and wind. Dimitry[2] in 1937 found by survey that pterygia were very prevalent in relatively dust-free, humid, non-industrial Louisiana. Fully 40 per cent of patients operated upon were women not exposed to wind and dust. An insignificant number of men patients were working out of doors in the dust bowl. Kamel,[9] reporting from Egypt, stated that a pterygium is both a corneal and a conjunctival disease. The first phase, he said, is limited to the exposed portions of the bulbar conjunctiva, and he called this phase "chronic exposure conjunctivitis." The same process may continue and affect the cornea. This causes growth of connective tissue on the cor-

From the Ophthalmological Service at Wadsworth General Veterans Administration Hospital, Los Angeles 25, California. Published with the permission of the Chief Medical Director, Department of Medicine and Surgery, Veterans Administration, who assumes no responsibility for the opinions expressed or conclusions drawn by the authors.

nea next to the limbus which contracts to pull adjacent conjunctiva onto the surface of the cornea. Kamel considered the process an inflammatory reaction to exposure irritation, rather than degeneration.

HISTOPATHOLOGY

Histopathologically, a pinguecula differs in some respects from a pterygium. A pinguecula has very few cells or blood vessels. It is a collection of degenerated connective tissue fibers and embedded masses of hyalin. According to Fuchs,[6] dark, staining fibers formerly believed to be degenerative elastic fibers are actually degenerated connective tissue fibers which have undergone a chemical change altering the staining properties.

A pterygium contains a moderate number of round cells and blood vessels. Loose connective tissue advances onto the cornea at the level of Bowman's membrane to cause fragmentation of the membrane. The connective tissue at the neck of the lesion is denser, more homogeneous and more closely resembles the structure of a pinguecula. Conjunctival epithelium covers the growth as if it were pulled onto the cornea by contraction of the fibrous connective tissue. Traction is evidenced by the longitudinally parallel fibers, and retraction may be observed after the head of the lesion is cut free from the cornea. Further evidence of retraction is the reduction in the amount of astigmatism that sometimes occurs.

In biomicroscopic examination of the head of a pterygium, fine pinpoint opacities may be observed at the level of Bowman's membrane, a variable distance in advance of the growth. The first changes are said to occur at the points where nerve fibers pierce the membrane. A small homogeneous mass filling the mouth of the nerve canal can be seen by high power on the microscope. There are a few wandering cells in the vicinity. Further toward the limbus, Bowman's membrane can be seen splitting and unravelling. The progress of the growth of a pterygium can be estimated by noting the vascularity and by the width of the rim of opacities in advance of it.

PRESENT STUDY

Since 1938, 140 patients have been operated upon at Wadsworth General Veterans Administration Hospital for either single or bilateral pterygia. A total of 175 operations were performed. These were done by different members of the staff and by various methods. In 119 cases the McReynolds method was used, and in 44 a modification of Desmarre's method. Excision was carried out in nine cases, and in three cases mucous membrane grafted from the lips was transplanted. In addition, pterygia were observed in 145 cases in the course of routine examination of patients who, either through choice or because of contraindication, were not operated upon. Of the 140 patients operated upon, 25 had recurrent pterygia (23 of them had had previous operations in which the McReynolds or a procedure of similar type was used). Of the group with recurrence, 12 were Mexicans. Of the 115 patients without recurrences 13 were Mexicans, four were Negroes, two Orientals and an Indian. In the group of 145 not operated upon there were 21 Mexicans, nine Negroes and four Orientals. More than 50 per cent of the total number of patients were occupied in outdoor labor, with exposure to wind, dust and sun, 20 per cent of the patients with recurrent pterygia were farmers and 18 per cent were truck drivers.

NO CORRELATION WITH OTHER DISEASES

The records were carefully reviewed to determine if there was any relationship between the presence of pterygia and vasomotor rhinitis, sinusitis or allergic disease; whether there was increased instance of conjunctivitis, blepharitis or tear sac invasion; and whether there might be concomitant metabolic abnormality or skin disease. No such correlations were found, even in cases in which there were from two to eight recurrences.

Of the 25 patients with recurrent pterygia, 12 had no history of previous significant illnesses. Two of the remaining 13 had malaria, and the following conditions occurred in one instance each: gallbladder disease, glycosuria, chronic colitis, chronic arthritis, hives, asthma, bronchitis, chronic teniasis, arrested tuberculosis, syphilis inadequately treated, cystitis, and acute bursitis.

In nine of the recurrent cases, the pterygia were bilateral. Sixteen patients had a single recurrence; five had two recurrences; two had four; one had five and one had eight. More than 50 per cent of the patients noticed recurrence within three months after operation. In approximately 25 per cent of the remaining cases, recurrences occurred as late as three to fifteen years after operation.

COMPLICATIONS

There were a few complications encountered. Oral mucous membrane was transplanted in one case in which there were five recurrences and symblepharon. At the time the patient was discharged from the hospital, the visual acuity was 20/200 and there were five prism diopters of left hyperphoria. In an additional case, corneal peeling was carried out to completely remove a 3 mm. pterygium. The visual acuity was 20/20 when the patient was discharged one week after the operation. At a follow-up examination two and one-half months later, recurrence of the pterygium was noted, and the vision was 20/20 with minus 1.25 sphere combined with plus 3.50 cylinder, axis 110. The growth was resected, following which the refraction showed minus 1.75 sphere combined with plus 3.50 cylinder, axis 97 for 20/20 minus 2. In one case in which a skin graft was excised from a patient who had had eight previous operations for recurrences, the vision was reduced to 20/70 with a high astigmatic correction.

In another case, in which the patient had a pterygium extending into the pupillary area, refraction prior to operation was O.D. plus 3.50 sphere combined with minus 2.25 cylinder, axis 5, 20/20 minus

1. Postoperatively, in ten days, the correction was O.D. plus 4.00 sphere combined with minus 2.25 cylinder, axis 5, 20/30.

SURGICAL PROCEDURES

As with etiology, the literature regarding the surgical treatment of pterygia is confusing and paradoxical. Some investigators would excise the growth. Others would transplant it, upon the fallacious rationale that they are redirecting it so that further growth will be harmless. Transplantation may be beneath the conjunctiva into a pocket, as in the McReynolds[12] method. If there is an objection to burying the mucous membrane, transplantation may be into an opening on the surface of the conjunctiva. Another method is to cauterize the underside of the growth with carbolic acid and let it fall back toward the caruncle without suturing.

Some ophthalmologists do a superficial peeling of the cornea to remove the pterygium. Others remove it in the line of cleavage and curette the remaining tags. Many stress removing the gray, translucent area in advance of the head of the growth. Much attention is given to the disposition of the main body of the pterygium, which is conjunctival. Other investigators recommend scraping connective tissue away from the sclera for several millimeters from the limbus and allowing this area to fill slowly with epithelium.

The general consensus is that a pterygium is a corneal disease, and that the growth progresses only into an area previously showing a gray infiltrative rim. Operation based on this concept would aim at removing all of the pterygium from the cornea. It would appear to make little difference whether the body of the pterygium, extending back to the caruncle, is excised, transplanted, cauterized, or given x-ray treatments: because in any case, conjunctiva with blood vessels and connective tissue would soon be found at the limbus to furnish cells for further growth if the "corneal diseased" area still existed. (Normal conjunctiva brought up to the limbus to cover the denuded area is not nearly as liable to grow over the cornea.)

ADVANTAGES OF MODIFIED DESMARRE'S OPERATION

In practice, it would seem best to consider a pterygium both a conjunctival and a corneal disease. The authors have been impressed by the results obtained with a modified Desmarre's operation. (A similar modification was reported by Miller[13] in 1937.) Forty-four operations were done by this procedure. The pterygium was removed from the cornea by doing a very superficial peeling of the cornea, using a number 15 Bard-Parker blade. Connective tissue was scraped from the sclera at the limbus for a distance of 2 mm. The conjunctiva was undermined in all directions (Figure 1). Two parallel incisions above and below the pterygium were extended back toward the caruncle for 3 to 4 mm. An oblique incision of 3 mm. through the conjunctiva was made to extend from below the pterygium down

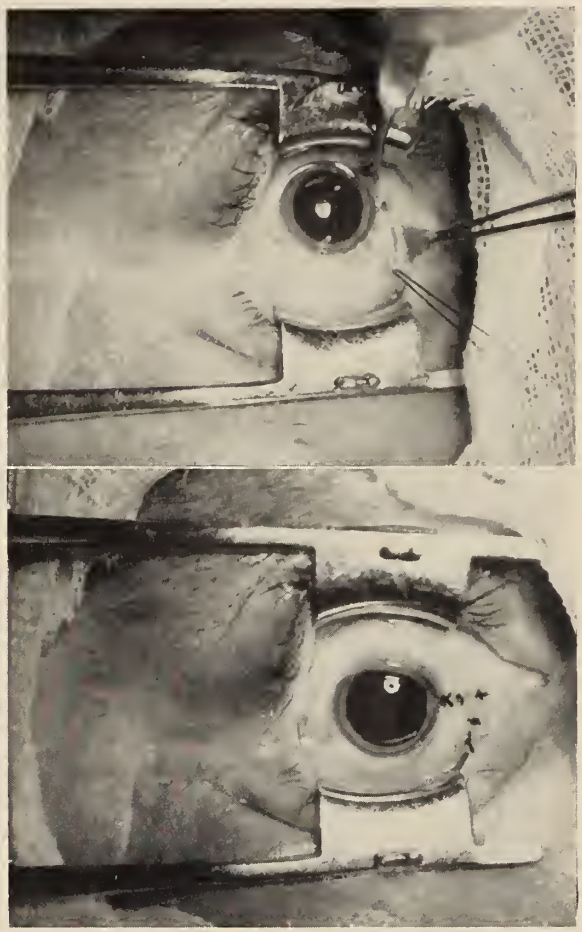


Figure 1.—*Upper picture:* Conjunctiva undermined and advanced over site of pterygium which has been raised from its bed to be transplanted at lower edge of incision. *Lower picture:* Operation completed.

toward the inferior cul-de-sac. The pterygium was sutured into this gap. The conjunctiva was cut at the limbus for a distance of 2 mm. above and below the gap left by the pterygium. The conjunctiva was thus mobilized and approximated. When sutured it usually extended over the cornea a short distance. It receded back to the limbus as healing progressed. The advantages of this operation can be enumerated:

1. Mucous membrane is not buried as it is in the McReynolds operation. (While little irritation seems to result from the McReynolds operation, nevertheless burying epithelium is not a sound surgical principle. Moreover, the double thickness remains rough for some time, and small cysts may form.)

2. It is felt that less vascularization of the postoperative scar occurs when it is protected by the conjunctival flap while healing. The flap then recedes to the limbus.

3. A bulbar conjunctiva that has been protected from exposure by the eyelids is used to cover the exposed portion of the globe where the pterygium was removed. In cases in which this operation was used there was only one recurrence.

REFERENCES

1. Becker, W. S., and Obermayer, M.: Modern Dermatology and Syphilology, J. B. Lippincott Company, Philadelphia, 1947, second ed., pp. 253-254.

2. Dimitry, T. J.: Dust factor in production of pterygium, Am. J. Ophth., 20:40-45, Jan. 1937.

3. Doherty, W. B.: Discussion of pterygia and report of new technique for their removal, Am. J. Ophth., 24:790-794, July 1941.

4. Duke-Elder, W. S.: Textbook of Ophthalmology, C. V. Mosby Company, St. Louis, 1938. Vol. 2, p. 2000-2003.

5. Ibid: p. 1745.

6. Fuchs, A.: Atlas of the Histopathology of the Eye, F. Deuticke, Leipzig, 1927. Part II, p. 137.

7. Fuchs, E.: Ueber das Pterygium, Arch. f. Ophth., Leipzig, 38:1-90, 1892.

8. Goldsmith, J.: New modification of McReynolds transplantation for pterygium, Arch. Ophth., 37:194-198, Feb. 1947.

9. Kamel, S.: Pterygium; its nature and new line of treatment, Brit. J. Ophth., 30:549-563, Sept. 1946.

10. Kirby, W. B.: Electro-surgical excision of pterygium; new method, Am. J. Ophth., 26:301-302, March 1943.

11. May, C. H.: Manual of the Diseases of the Eye, William Wood and Company, Baltimore, 1941 Ed., p. 139-140.

12. McReynolds, J. O.: The nature and treatment of pterygium, J.A.M.A., 39:296, 1902.

13. Miller, H.: Modification of Desmarre's operation for transplantation of pterygium, Am. J. Ophth., 20:165-169, Feb. 1937.

14. Parsons, J. H., and Duke-Elder, S.: Diseases of the Eye, Macmillan Co., New York, 1948. Eleventh ed., pp. 189-191.

15. Schoninger, L.: Ueber Pterygium, Klinische Monatsblatter fur Augenheilkunde, 77:805-813, Dec. 1926.

16. Wiener, M.: Treatment of recurrent pterygium, Am. J. Ophth., 11:876-878, Nov. 1928.

Medicine in the Talmud

Abraham Bernstein, M.D., and Henry C. Bernstein, M.D., *San Francisco*

THE TALMUD[1, 2] is a commentary on the Bible and also an encyclopedia. It includes portions on jurisprudence, history, ethics, mythology, astronomy, mathematics, philosophy, theology, medicine, anatomy and botany. It was compiled by a number of Jewish scholars. The Talmudic teachings, for centuries transmitted orally, were finally placed in definite literary form at the end of the fifth century as a collective labor of many generations.

Much attention was given in the Talmud to medicine, to study of principles and theories which were later discussed by modern scientists and clinicians. Rabbis of considerable erudition and sagacity evolved a system of treatment and hygiene which in scope and quality stood far above the period of civilization in which they lived.

The Talmud contains no medical treatises as such; medical subjects are discussed in connection with religious rites and ceremonies. As guides to an understanding of stages in the development of medical lore, the Talmudic statements have great historical value. Many old methods applied by the Talmudists were strikingly like those with which medical science is occupied at present. The medical instructions and directions of the Talmud are so positive and so concrete that it is quite evident that the Talmudic physicians were versed in etiology and pathology; their medical knowledge was based not only on hypotheses and traditions, but also on observation, dissection, and experimentation.

The wealth of Talmudic medicine is best revealed when it is compared with the methods of modern medicine, for many of the views, hygienic rules and methods of treatment of the ancient Talmudic physicians stand inspection in the light of today's scientific knowledge.

The diagnosis of diseases was made on the basis of palpation, observation and, sometimes, the application of physical and chemical reagents. Blood tests were made with a number of reagents composed of seven chemicals. The diagnosis of stomatitis was made on the basis of the redness, swelling and tenderness of the inflamed area. In cases in which the diagnosis was doubtful, the patient was isolated for observation. The diagnosis of skin diseases was made on the size, shape, exudation and color of the lesion. Clinical observation took from one to three weeks. The Talmud suggested that a thorough examination was necessary for correct diagnosis. "A physician who treated without examination brought harm." "A physician who heals for nothing is worth nothing."

The Talmud considered that the prognosis of an illness depended upon the cause and the site affected. Internal diseases were more serious than external. The most dangerous were angina pectoris, meningitis, inflammation of the spinal cord, and gallbladder disease. Heart disease was recognized as a grave malady because the function of all organs depended upon the heart. Open wounds were treated as a serious disease; cancer was considered dangerous. Diseases of the eye were also regarded as grave. Perforations of the heart, esophagus, stomach or volvulus were believed to be fatal, as was injury of the spinal cord. Atrophy or abscess of the kidney caused death, but extirpation of the spleen, removal of the uterus and accumulation of transparent fluid in the kidney were not considered fatal.

The Talmud considered hygiene to be of the utmost importance. Cleanliness, bathing, proper food, regular living, isolation of infected patients and prevention of contagious diseases were urgently advised. "Be careful of the flies near the contagious patient." "The amputated organs of the contagious should be buried." Patients with leprosy were isolated. Persons who had been in contact with a leper were isolated during the incubation period.

To drink water which flowed through a filthy place was forbidden because of the danger of contamination. The drinking of dish water was not permissible. Wine or milks left uncovered should not be drunk because of the danger of a hidden snake entering and drinking the liquid and polluting it with venom. It was advised that hands be washed before each meal and lips and mouth washed after meals to prevent diseases of gums and mouth. "Water suspected of containing germs should be boiled before using." "Do not drink from unclean glasses." "If you taste soup, do not return remains to the pot."

To prevent an offensive odor from the mouth, plenty of fresh water to drink and frequent mouth washes were recommended. The food for eating must be prepared fresh and clean. It was recommended one should not live in a town where there were no vegetable gardens. The Talmud also warned against living in a town where there were neither physicians nor bathing facilities.

It was suggested that the food to be eaten should be varied. Carbohydrates and vegetables were regarded as unsatisfactory, but together with fats they were recognized as a source of energy, producing power. "Do not eat immoderately," was an admonition then as now. Other statements seem even today to have been born of studious observation: "Wine in small amounts is a remedy; in large amounts it is poisonous"; and, "The following seven objects are beneficial if used moderately and harmful if used excessively: travel, luxury, work, wine, sleep, warm water, and venesection for medical purposes."

The Babylonian Talmud[1] states that the causes of diseases are uncleanliness, cold wind, improper food, worry, fear, trauma, hereditary weakness, and infections. Unhygienic conditions are considered important factors contributing to sickness. The ancient rabbis found that diseases were prevalent in unclean places; cold and heat were factors in many maladies. Living in damp places and dwelling

where there was insufficient sunshine was observed to be injurious to health; and ingestion of unripened fruits and contaminated water was noted to be dangerous and the cause of many severe diseases. Tapeworms entered the body when beef that had not been boiled thoroughly was eaten. Other observations of etiologic import: More diseases come from overeating than from hunger; lack of exercise results in weakness and nervousness; fright causes palpitation of the heart; trauma of the spinal cord produces limping, while softening of the cord causes tremor of the head; a fall may cause injury to the internal organs with fatal results; hemophilia and epilepsy are hereditary and prevalent only in certain families; the food, utensils and clothing of persons afflicted with contagious diseases are the sources of the spreading of those diseases.

The Talmud speaks of minute organisms and insects as the cause of certain diseases and states that "there are many germs and insects that are dangerous to health; minute organisms existing everywhere in abundance; if man could see them all, he could not exist."

It is remarkable that the Talmudists were the first to state that symptoms of all diseases are merely external manifestations of internal changes in the tissues or organs and that they observed that the nature of the change varied with the disease. At about the same time, the contemporaries of the writers of the Talmud, Hippocrates and his disciples, created a theory that the body contains four humors: blood, phlegm, yellow bile, and black bile. The improper proportion or irregular distribution of these humors caused disease. Later, Galen stated that the normal condition of the body depended upon a proper mixture of the four elements, heat, cold, moisture, and dryness; all symptoms and all diseases were explained on this theory. The ancient medical schools knew very little about pathologic changes. They did not suspect that structural changes appear in the body during disease.

The Talmud established a religious rule forbidding the eating of meat of an animal afflicted with a disease. Therefore, all animals slaughtered were thoroughly examined as to the condition of their internal organs. Thus, much valuable scientific knowledge about diseased structures and morbid processes was made available. The pathological changes of organs with regard to color, position, consistency and cavities were noted. Bones, muscles, glands, and internal organs were carefully described as to histologic and topographic features. The exact number of bones in the human body was determined when Rabbi Ishmael dissected the body of a woman who had been executed as a criminal.

In 1855, Wilcker suggested a method of determining the total quantity of blood in the body. This consisted in washing the blood from the vessels with water and estimating the amount of hemoglobin in the washings. A similar method, by which the color of all the blood in the body mixed with a measured amount of water was compared with samples of blood and water in known rates, was used by the Talmudists some 1,500 years earlier. And they obtained more accurate results than Wilcker. Rabbi Ashi discovered the presence of "elastic threads" in a case of pulmonary disease. The rabbis were able to determine whether bleeding was from the lungs or from other organs by observing the color of the blood.

Hemophilia was first reported by Fordyce in America, in 1784. Hippocrates and Galen made no mention of this disease, and in the medical literature of the Middle Ages there is no reference to it. The Talmudists, however, described the disease 2,000 years ago. In connection with the rite of circumcision there were instances of death traceable to excessive loss of blood. The rabbis characterized such victims as descendants of a bleeder's family. In such instances parents who had lost two sons due to loss of blood were enjoined not to observe this rite for any of their sons born thereafter. The rabbis knew that this disease was transmitted from mother to son, and that women, although not themselves bleeders, transmitted the disease to their sons. The cause of death was explained to be a lack of viscosity of the blood which interfered with the protective property of clotting.

The Talmudists considered that in illness the prognosis depended upon the cause and the site of lesion. They predicted the course and end of certain diseases in accordance with the varying pathological conditions. Blue and light green discolorations of the lung were not considered dangerous; black indicated that the lungs had begun to disintegrate; a bright yellow color was an indication of almost certain death. Softening of the lungs was mortal; an empty cavity was not dangerous to life. In the case of collapsed lungs in an animal, the Talmud gave the following rule: If after the lungs have been immersed in water they can be inflated with air, the flesh of the animal is fit for food; if they cannot be inflated, it is unfit.

The ancient Greek physicians claimed that injury to the trachea or removal of the spleen was fatal. The rabbis stated that a wound in the trachea heals quickly and that removal of the spleen will not cause death. This is in accordance with medical knowledge of today.

Galen supposed that the thoracic cavity was filled with air; he believed that from a physiological point of view such a condition was necessary for the normal process of respiration. The Talmudists, however, stated that such a condition was evidence of a pathological process.

In light of the variety of medical lore and the conflict of theories among the ancients of separate civilizations and cultures, one cannot but conjecture how much fuller and more exact medical knowledge might have become in that day if there had been then the wholesome forums which today stimulate advances in medicine.

350 Post Street.

REFERENCES

1. Babylonian Talmud (completed at the end of the fifth century).
2. Palestinian Talmud (completed in 390 A.D.).

CASE REPORTS

- Carbon Tetrachloride Intoxication
- The Significance of Pure Pigment Calculi in Biliary Operations
- Cytologic and Radiologic Observations in Lymphosarcoma of the Stomach

Carbon Tetrachloride Intoxication

CARL D. STROUSE, M.D., *Beverly Hills*

CARBON tetrachloride damages the kidneys and liver in a characteristic manner which is not as well recognized clinically as it might be. The following report of a patient who recovered after drinking carbon tetrachloride demonstrates the resulting disturbances of renal and hepatic function.

CASE REPORT

A 34-year-old white housewife entered the hospital May 14, 1949, with complaint of icterus for 24 hours and emesis for one week.

For five years prior to 1946 the patient had consumed alcohol in "small amounts" with food. In 1946 she began periodically to drink heavily, consuming one pint of whiskey daily at intervals for about one year. In January 1949 she again began to drink heavily and this continued to the present illness. For several days prior to the week preceding hospitalization she had been drinking large amounts of whiskey. When, seven days before hospitalization, no more whiskey was available in the house, she drank an unspecified amount of household ammonia and 3 ounces of rubbing alcohol.

During the following week she ate almost nothing, vomited often, passed dark to black stools, and had generalized upper abdominal pain. At the end of this week she vomited blood and noted epistaxis. The urinary output had been scant all week but was not carefully observed. When jaundice was noted medical care was sought and the patient was immediately hospitalized.

The past history was essentially unimportant. The husband and two children, ages 6 years and 18 months, were living. Pregnancies had been uneventful. Blood pressure and urinalysis in July 1947 were "normal." Blood pressure at term in January 1948 was 150 mm. of mercury systolic and 90 mm. diastolic, and urine at that time contained a faint trace of albumin. Physicians had often noted an irregularity of the heartbeat but there was no known rheumatic fever and no symptoms indicative of heart or lung disease. Menstrual history was normal with menarche at age of 14. There were no past symptoms referable to the gastrointestinal or genitourinary tracts.

Upon physical examination at the time of admission to the hospital, the patient was noted to be well developed, well nourished, drowsy, and depressed. She was moderately icteric and had fetor oris. No spider angiomata were noted. The respirations were 20 per minute and regular. The pulse rate was 84 per minute and the rhythm was regular. Blood pressure was 134 mm. of mercury systolic and 70 mm. diastolic. The temperature was 98.6° F. Blood was oozing from the nose. Pupillary reactions and extraocular movements were normal, and no abnormality was noted in the ocular fundi. The sclerae were yellow. The tongue was coated and dry, teeth were clean, and the pharynx was not injected. There was no enlargement of lymph nodes. The thyroid gland was not enlarged and there was no venous distention. The neck was supple, and the trachea was in the midline. The lungs were clear to percussion and auscultation, and the breasts were normal. The apparent heart size was not increased and there was a Grade II systolic murmur, loudest at the apex, but heard over the entire precordium. The abdomen was soft and muscles flabby. The liver edge, which was palpable on expiration 3 cm. below the right costal margin in the midclavicular line, disappeared below the sternum in the midline. It was sharp, irregular and tender. Spleen and kidneys were not palpable. No other masses or tenderness were noted. There was no evidence of fluid in the abdomen. No abnormalities were observed in the extremities. Good peripheral pulsation was noted and normal tendon reflexes were elicited. The cervix, corpus uteri and adnexae were normal.

Course in Hospital: At the time of admission to the hospital the diagnosis was alcoholic cirrhosis of the liver with recent exacerbation. The specific gravity of a specimen of voided urine was 1.006, which was significant because of the dehydration. (The correct diagnosis could have been made at this point, but was not.) The reaction was acid and the urine contained 1-plus protein and occasional erythrocytes and leukocytes, but no casts. Vitamin K (72 mg.) was given intravenously and the epistaxis stopped. Because of vomiting, parenteral feeding was necessary on both the first and second hospital days (Chart 1). No electrolytes were given. Urinary output of 700 cc. seemed compatible with dehydration, but because of persistent drowsiness, further chemical studies were ordered.

On the third hospital day (tenth day of illness) the patient was both restless and drowsy, had dark fluid stools and emesis. Demerol® was given for relief of pain. Parenteral feeding again was carried out (Chart 1) and Vitamin K was given. The urine output was 900 cc. and the general picture was still in keeping with the diagnosis of dehydration and severe hepatitis. Later that day, however, the laboratory reports were as shown in Chart 2 (tenth day).

It was then evident that the patient had renal as well as hepatic disease and a search for toxic agents was made. It was known that the patient had ingested household ammonia which is not harmful. The rubbing alcohol which she had consumed contained: ethyl alcohol 70 per cent, acetone approximately 8 per cent, methyl-iso-butylketone approximately 1.5 per cent, and a small amount of sucrose-octa-acetate for bitter taste. None of these agents is known to have such toxic effects.

A partially filled bottle of "Energine Cleaning Fluid, Fireproof" was found in the patient's home and she admitted

From the Cedars of Lebanon Hospital, Los Angeles.

CHART 1.—*Treatment*

	Day of Illness																			
	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27
Intravenous fluid (cc.)	1,000	2,000	2,000	2,500	2,000	2,000	1,600	1,670	1,550	1,650	....	....	....	....	....	....	....	....	....	....
Sodium chloride (gm.)	0	1.0	1.0	9.5	18	9.0	0	0	1.0	1.0	....	....	....	....	....	....	....	....	....	....
Carbohydrate (gm.)	50	50	50	100	100	50	50	50	....	....	....	....	....	....	....	....	....	....	....	....
Protein (gm.)	0	50	50	25	0	0	0	0	50	50	....	....	....	....	....	....	....	....	....	....
Ringer's lactate (cc.)	0	0	0	1,000	0	1,000	0	0	....	....	....	....	....	....	....	....	....	....	....	....
Vitamin B complex (ampules*)	1	1	1	1	0	1	1	1	....	....	....	....	....	....	....	....	....	....	....	....
Vitamin K intravenously (mg.)	72	0	72	0	72	0	72	0	72	0	72	....	....	....	....	....	....	....	....	....
Vitamin K orally (mg.)	....	....	....	....	....	....	....	....	....	....	30	30	30	30	30	30	30	30	30	30
Blood (cc.)	0	0	0	0	0	1,000	500	500	....	....	....	....	....	....	....	....	....	....	....	....
Liver extract (units)	....	....	....	....	....	....	....	15	15	....	15	....	15	....	15	....	15	....	15	....
Choline (gm.)	....	....	....	....	....	....	....	....	....	....	....	4	4	4	4	4	4	4	4	4

*Each ampule contained: Thiamine hydrochloride, 10 mg.; riboflavin, 10 mg.; ascorbic acid, 100 mg.; pyridoxine hydrochloride, 5 mg.; calcium pantothenate, 50 mg.; nicotinamide, 250 mg.

CHART 2.—*Results of Laboratory Tests*

	Day of Illness															3 Mos.
	8	9	10	11	12	13	14	15	16	17	18	19	21	25	26	Later
Urine volume (cc.)	250	700	900	650	250	1,000	2,080	2,480	3,950	1,400	....	....	....	....	....	....
Nonprotein nitrogen (mg. per 100 cc.)	....	....	232	246	208	221	....	....	....	....	....	....	....	47	....	42
Creatinine (mg. per 100 cc.)	....	....	12.1	....	16.9	15.2	14.5	13.2	....	....	....	10	....	....	1.75	....
Carbon dioxide combining power (volume, per cent)	....	....	....	27	....	....	31	....	....	....	....	....	....	....	....	....
Serum chloride as NaCl (mg. per 100 cc.)	....	....	....	380	407	480	475	....	....	....	....	....	....	....	....	....
Serum potassium (mg. per 100 cc.)	....	....	....	....	....	....	20	....	....	....	....	....	....	....	....	....
Serum calcium (mg. per 100 cc.)	....	....	....	....	....	....	....	10.7	....	....	....	....	....	....	....	....
Leukocytes per cu. mm. (with percentage of polymorphonuclear cells shown in parentheses)	....	....	15,300 (p. 81)	....	....	16,600 (p. 90)	....	20,500 (p. 87)	....	....	19,800 (p. 76)	....	17,100 (p. 77)	11,100 (p. 73)	....	7,100 (p. 55)
Hemoglobin (gm. per 100 cc.)	....	....	11.2	....	....	7.1	....	10.7	....	....	13.3	....	....	12.7	....	12.5
Prothrombin (per cent of normal)	....	....	72	....	....	....	38	92	....	....	80	....	....	61	....	90
Albumin-globulin (gm. per 100 cc.)	....	....	3.7/2.2	....	....	....	....	....	....	4.5/2.5	....	....	....	....	....	....
Icteric index (units)	....	....	35	....	40	....	....	....	....	....	31	....	....	9.5	....	10
Cephalin flocculation (units)	....	....	3+ (24 and 48 hrs.)	....	....	....	....	....	....	....	....	....	....	Neg. 48 hrs.	....	....
Cholesterol-ester (mg. per 100 cc.)	....	....	....	153/33 =21%	....	....	....	....	....	....	....	....	....	270/187 =70%	....	301/260 =86%
Carbohydrate (mg. per 100 cc.)	....	....	....	117	....	....	....	....	....	....	....	....	....	....	....	....
Thymol turbidity (units)	....	....	5.2	....	....	....	....	....	....	....	....	....	....	....	....	....

Blood type "O", Rh+.

having drunk about two ounces of this ten days previously. This fluid contains 75 per cent carbon tetrachloride and 25 per cent naphtha by volume, and this fact confirmed what had become a strong suspicion of carbon tetrachloride intoxication.

On the 11th day the blood pressure was 150 mm. of mercury systolic and 60 mm. diastolic. There was a sinus rhythm with a pulse of 90 and temperature was 98.6° F. Edema of the face and back had developed and what one observer thought were spider angiomata were noted on the nose. No change in the liver was noted upon physical examination. The urinary output was 650 cc. in 24 hours. The serum chlorides were 380 mg. per 100 cc., so despite the presence of edema the patient was given 1 liter of 5 per cent glucose in Ringer lactate solution (containing 9 gm. sodium chloride) and 1 liter of 5 per cent glucose in water intravenously. In more detailed examination of the urine on this day, the following data (calculated on the basis of 24-hour urine excretion) were noted: Protein, 0.968 gm.; sodium chloride, 1.30 gm.; leukocytes, 36,000,000; erythrocytes, 60,000,000; casts (broad), 100,000.

On the 12th day the blood pressure was 160 mm. of mercury systolic and 60 mm. diastolic and the face was edematous. The abdomen was distended and the patient had black, liquid stools and bloody vomitus. Vitamin K again was given intravenously but severe nosebleed developed and blood and clots were "vomited." A large clot was noted in the nasopharynx, and there was active bleeding in the left naris. After the mucosa had been shrunk and old clots removed, no active bleeding point could be seen. A small ulcerated area was noted in the middle of the left septum, and the right middle turbinate appeared ecchymotic. There was no further bleeding. The pulse rate remained between 80 and 90 and the blood pressure did not fall so that the blood loss was thought to be unimportant. The urine was alkaline with a specific gravity of 1.010, and albumin 1-plus. There were three to four leukocytes and triple phosphate crystals per high power field. Because serum chlorides were still low (407 mg. per 100 cc.) the patient received 2 liters of 5 per cent glucose in normal saline by vein but excreted only 300 cc. of urine. The nonprotein nitrogen level fell but the creatinine rose (Chart 2).

On the 13th day there was no new bleeding but dark liquid stools were again noted. The blood pressure was 150 mm. of mercury systolic and 60 mm. diastolic and the pulse rate was 84, but as the hemoglobin content of the blood was 7.1 gm. per 100 cc., the patient was given 1,000 cc. of whole blood plus 1 liter of 5 per cent glucose in Ringer lactate solution (containing 9 gm. sodium chloride). The urine remained alkaline and the serum chlorides rose. The nonprotein nitrogen rose slightly but the creatinine fell. Urinary output was 1,000 cc.

On the 14th day the patient received an additional 500 cc. of whole blood plus vitamin K intravenously. Output of urine was more than 2,000 cc. The creatinine continued to fall and serum chlorides remained high but it was not until the 15th day that the patient showed clinical improvement; she was less nauseated and more alert and became interested in getting well. The blood pressure was 190 mm. of mercury systolic and 90 mm. diastolic. A few rales were noted at both lung bases. The creatinine content of the blood fell further and the hemoglobin value rose. The patient voided 2,500 cc. of urine. An additional 500 cc. of whole blood plus 1 liter of 5 per cent glucose in water was given.

On the 16th and 17th days proteins were given intravenously, and after that the patient was able to take nourishment by mouth. The remainder of the treatment is shown in the charts.

On the 22nd day blood pressure was 160 mm. of mercury systolic and 90 diastolic with a constant trigeminal rhythm. A soft systolic murmur was heard at the apex. The lungs were entirely clear. The abdomen was soft, and the spleen and kidneys were not palpable. The liver was 3 cm. below the right costal border on expiration and extended across the midline into the epigastrium with a sharp, non-tender edge. There was no icterus. Three days later, on the 25th day, blood pressure was 170 mm. of mercury systolic and 90 diastolic.

Results of urinalyses between the 17th and 25th days were: Specific gravity, from 1.001 to 1.009; reaction, neutral to alkaline; albumin, zero to 2-plus; leukocytes per high power field, 2 to many, and erythrocytes, 2 to 3. No casts were noted.

An electrocardiogram taken on the 22nd day showed sinus rhythm, rate 90, ventricular premature complexes occurring regularly every third beat, and inversion of T-2 and T-3. Subsequent electrocardiograms, taken two weeks and again two months later, showed T-2 upright, T-3 and P-3 inverted. The ventricular premature complexes remained but were less regular.

Upon subsequent examination two months after the patient had left the hospital and resumed moderate activity, there was a 4-pound gain in weight, blood pressure was 130 mm. of mercury systolic and 80 diastolic, trigeminal to bigeminal rhythm becoming regular after mild exercise, a softer systolic apical murmur, and a barely palpable non-tender liver edge.

Results of laboratory work not shown in Chart 2 but done three months after discharge from the hospital follow: Bromsulfalein test, no dye in serum after 45 minutes; erythrocytes, 3,940,000 per cu. mm. of blood; phenolsulfonphthalein excretion; 54.4 per cent in 2 hours after intramuscular administration of dye; Mosenthal test, concentrated specific gravity 1.017, diluted specific gravity 1.002; urine contained no albumin and 2 to 5 leukocytes per high power field; blood sedimentation rate, 46 mm. in one hour.

DISCUSSION

Most reported cases of carbon tetrachloride poisoning result from inhalation of vapors. Carbon tetrachloride, whether inhaled as fumes or ingested as liquid, characteristically damages the liver and kidneys. Whether or not the injury will be fatal depends primarily on the dose. Alcohol ingestion predisposes to more serious damage. Supposedly the liver is more severely damaged after ingestion of carbon tetrachloride and the kidneys are more severely damaged after inhalation.[2, 4, 5, 8, 9]

The renal disturbance is toxic nephrosis with damage primarily occurring in the epithelium of the distal tubules. Complete recovery occurs if the patient survives. The hepatic disturbance is essentially central necrosis of the lobule, with recovery if the patient survives.[1, 6, 7, 10]

The patient in the case here reported was not severely oliguric during the period of observation. There were relatively few casts and cells and relatively little protein in the urine, and the blood pressure was only moderately elevated. Yet edema was present and there was severe nitrogen retention and the content of chlorides in the serum and urine was low, indicating pronounced renal disturbance. Therefore the problem of whether or not to give sodium chloride was confronted. There is nothing definitive on this point in the literature, but most recent investigators would withhold salt in the presence of edema.[3, 6] The patient in the present case received 9 gm. of sodium chloride on the 11th day, 18 gm. on the 12th day and 9 gm. on the 13th day. Diuresis began on the 13th day.

The liver was badly damaged, as was indicated clinically by enlargement, tenderness, jaundice and hemorrhage. The

low cholesterol and esters, prothrombin disturbance and results of a cephalin flocculation test gave laboratory confirmation. The normal serum protein level illustrated the well-known fact that liver function may be differentially disturbed. The bleeding which was present was probably associated with the demonstrated prolongation of prothrombin time but cannot be more fully explained until knowledge of the entire prothrombin mechanism is more complete. Platelets and capillary fragility were normal.

The damaged liver needed protein as well as carbohydrate for regeneration and the patient received intravenous protein until the threat of death from kidney failure seemed more imminent than the threat of death from hepatic failure. No protein was given from that time (12th day) until there was evidence of kidney recovery (16th day). The transfused blood, which was given primarily to counteract the hemorrhage, may well have been an important factor in aiding renal recovery (the urinary output was greater the day preceding the hemorrhage than on the day of the hemorrhage and then increased greatly after blood was given).

In evaluating the effect of the treatment, it must be recognized that the patient was not observed by a physician until seven days after ingestion of the carbon tetrachloride. This perhaps indicates that under-treatment is of some value as contrasted to the temptation to do too much. The determining factor as to eventual outcome is the severity of the damage done to the liver and kidneys, and treatment is aimed at maintaining the body economy during the temporary illness of these vital organs. Administration of too much fluid and electrolyte cannot force the kidneys to function, but can drown the patient.

SUMMARY

A patient drank less than 6 ounces (the exact amount is not known) of a solution containing 75 per cent carbon tetrachloride. Nausea, vomiting and abdominal pain developed immediately. Subsequently jaundice, hypoprothrombinemia, and hemorrhage developed, and results of laboratory tests were indicative of liver damage. Oliguria, edema, azotemia, mild hypertension, hypochloremia, and acidosis due to kidney damage also developed.

Treatment consisted of cautious administration of moderate amounts of fluid and carbohydrates; sodium chloride was given when the serum chlorides were low; very little protein was given because of severity of the renal disturbances. Vitamin K and whole blood were also given. The patient recovered.

405 North Bedford Drive.

REFERENCES

1. Bagenstoss, A. H.: Carbon tetrachloride intoxication treated by peritoneal lavage. Pathologic aspects, Proc. Staff Meet. Mayo Clinic, 22:321-27, Aug. 6, 1947.

2. Corcoran, A. C., Taylor, R. D., and Page, I. H.: Acute toxic nephrosis, a clinical and laboratory study based on a case of carbon tetrachloride poisoning, J.A.M.A., 123:81-85, Sept. 11, 1943.

3. Fields, I. A., Martin, H. E., Simonsen, D. G., Wertman, M., and Westover, L.: The treatment of acute anuria, Ann. of Surg., 129:445-462, April 1949.

4. Goodman, L., and Gilman, A.: The Pharmacological Basis of Therapeutics, The Macmillan Company, New York, 1944.

5. Hamilton, A., and Johnstone, R. T., in Oxford Medicine, Vol. IV, Part III.

6. Kugel, V. H.: Management of acute toxic nephrosis, Am. J. Med., 3:188-205, Aug. 1947.

7. Martin, W. B., Dyke, L. H., Jr., Coddington, F. L., and Snell, A. M.: Carbon tetrachloride poisoning: A report of one fatal case with necropsy and one non-fatal case with clinical laboratory studies, Ann. Int. Med., 25:480-97, Sept. 1946.

8. Pearson, C. C.: Carbon tetrachloride intoxication with acute hepatic and renal failure treated with peritoneal lavage: Report of case, Proc. Staff Meet. Mayo Clinic, 22:314-21, Aug. 6, 1947.

9. Smetana, H.: Nephrosis due to carbon tetrachloride, Arch. Int. Med., 63:760-777, April 1939.

10. Snell, A. M.: Carbon tetrachloride intoxication treated by peritoneal lavage, clinical aspects, Proc. Staff Meet. Mayo Clinic, 22:327-330, Aug. 6, 1947.

The Significance of Pure Pigment Calculi in Biliary Operations

H. B. Alexander, M.D., and W. R. Ballard, M.D.,
Los Angeles

PIGMENT calculi in the biliary tract indicate an underlying hemolytic process. This process may be either familial or acquired hemolytic jaundice. Familial hemolytic jaundice has long been regarded as an entity apart from the acquired type. The familial type, first described in 1900 by Minkowski, is characterized by the presence of spherocytic erythrocytes in the circulating blood associated with increased fragility of the red cells. In the acquired type, first described by Hayem and by Widal, spherocytes are usually absent, reaction to Coomb's test is positive, and there is frequently a history of exposure to a hemolytic agent. The following case does not fit exactly into either category.

CASE REPORT

A 22-year-old white female had sudden onset of severe colicky pain in the right upper quadrant of the abdomen and radiating to the region of the right scapula. A few hours later nausea and vomiting began and 30 hours later generalized jaundice developed. The jaundice and pain in the right upper abdominal quadrant continued in varying degrees for three weeks.

At the age of 13 the patient had had jaundice associated with an enlargement of the spleen. A diagnosis of catarrhal jaundice was made at that time. At the age of 15 years she was found to have an enlargement of the spleen, associated with moderate anemia. At that time, erythrocytes numbered 2,500,000 per cu. mm. of blood. At the age of 19 years she was kicked on the upper abdomen by a horse. Because of the possibility of injury to an intra-abdominal viscus, exploratory laparotomy was performed. No ruptures were noted in the viscera, but there was a retroperitoneal hematoma. From that time until the present illness, splenic enlargement associated with anemia had been noted in periodic physical examinations. There was no history of drug idiosyncrasy or of the ingestion of drugs other than preparations of liver and vitamin B complex.

Careful interrogation concerning the family history elicited no evidence of jaundice or anemia in any of the patient's known ancestors.

Upon physical examination, tenderness to palpation was noted in the right upper quadrant of the abdomen. There was a long vertical scar of a right rectus incision. The spleen was palpable four inches below the left costal margin. Erythrocytes numbered 3,690,000 per cu. mm. of blood. The hemoglobin content was 11.6 gm. per 100 cc. of blood. Leukocytes were in normal number and the cell differential within normal limits. The erythrocytes were not abnormally fragile. No spherocytic erythrocytes were observed. There was bile in the urine. In a van den Bergh test there was an immediate direct reaction. Bilirubin content of the serum was 13.0 mg. per 100 cc. There were 8.2 gm. of total protein per 100 cc. of blood with a normal albumin-globulin ratio. Results of a cephalin flocculation test were negative. The prothrombin activity was 78 per cent of normal. In a roentgenologic examination of the gallbladder, after the administration of a radiopaque dye, multiple negative shadows, interpreted as multiple small stones, were noted.

At operation the gallbladder was found to be subacutely inflamed. The common duct was enlarged to twice normal size. Both the gallbladder and the common bile duct contained a considerable quantity of precipitated bile pigment and bile pigment stones. The pancreas was normal; the spleen was grossly enlarged, extending halfway to the umbilicus from the left costal margin. The gallbladder was removed, the common duct was opened, the stones and debris were removed from it, and a T-shaped rubber drain was inserted. The splenic artery was isolated and ligated at the superior border of the pancreas, and the spleen was removed after fractional ligation of the pedicle.

The calculi removed were made up of bile pigment. The changes typical of chronic cholecystitis were observed in the gallbladder. The spleen, which weighed 500 gm., measured 20 cm. x 11 cm. x 6 cm. In gross examination of sectioned splenic tissue it was observed to be homogeneous, smooth and deep red in color. It appeared moderately firm and contained much blood.

In microscopic examination of the splenic tissue, widely separated lymph follicles were observed and there was an abnormally large amount of blood throughout the organ. The pulp was laden with erythrocytes, the sinuses relatively free of them. Accumulations of hemosiderin pigment were observed throughout the tissue. There also appeared to be some increase in the amount of fibrous tissue.

Within a few hours of operation the hemoglobin content rose to 17.6 gm. per 100 cc. of blood and leukocytosis developed. A week later the hemoglobin content was 18.2 gm. per 100 cc. of blood and leukocytes numbered 31,200 per cu. mm. The temperature ranged between 99° F. and 101° F. daily. On the 12th postoperative day, right pleural effusion appeared; this was gradually absorbed.

Dismissed from the hospital on the 13th postoperative day, the patient then steadily gained in strength. The hemoglobin content of the blood steadied at around 14.8 gm. per 100 cc. The number of leukocytes steadily decreased toward a normal level.

DISCUSSION

The extensive surgical procedure carried out was indicated because of the different pathologic processes present. The gallbladder was removed because of the cholecystitis and cholelithiasis. The common duct was opened and the pigmented calculi removed from it because of the obstructive jaundice and biliary colic resulting from the presence of the stones. The spleen was removed in order to terminate the hemolytic process which resulted in the formation of the pigmented stones.

It must be emphasized that the presence of multiple pure pigmented stones in the biliary tract indicates excessive hemolysis. Boyd stated that no other cause of such stones has been established.

If the hemolytic process is in a stage of remission when a patient with biliary calculi of pigment type is first observed, the process may be overlooked. It is important that every effort be made to establish the presence of an underlying process by careful consideration of the past history and the results of present physical and laboratory examinations.

In the case here reported, the normal fragility of the red cells, the absence of spherocytic cells and the absence of a family history of hemolytic anemia militated against the diagnosis of familial hemolytic jaundice. A diagnosis of acquired hemolytic jaundice was rendered unlikely by the absence of a history of drug idiosyncrasy or of a history of the ingestion of noxious substances. The negative reaction to Coomb's test also tended to oppose such a diagnosis. The history of long-standing mild anemia associated with splenomegaly, followed by the development of pigment calculi, suggested the diagnosis of chronic hemolytic anemia. The observations in pathologic examination of the spleen were consistent with this. The effect of splenectomy on the anemia was similar to that observed when the spleen is removed in classic cases of congenital hemolytic jaundice.

In any patient with obstructive jaundice caused by pigment calculi, underlying hemolytic jaundice should be suspected. In such instances removal of the pigment calculi is insufficient therapy. Reformation of pigment calculi should be prevented by means of splenectomy.

SUMMARY

A case is presented in which obstructive jaundice followed the development of pigment calculi in the biliary tract. There was an underlying history of splenomegaly and anemia. The case was not typical of either familial hemolytic jaundice or acquired hemolytic jaundice. The response to splenectomy was that which usually follows this operation in cases of familial hemolytic jaundice.

Pigment calculi in the biliary tract indicate an underlying hemolytic process. The etiologic factor in this process must be sought and removed to prevent recurrence of calculi.

ACKNOWLEDGMENT

The authors wish to express their thanks to Leonard E. Croft, M.D., of Santa Monica, for permission to publish this case.

1414 South Hope Street.

REFERENCES

Boyd, W.: Surgical Pathology, 1947, W. B. Saunders Co., p. 334.

Coombs, R. R. A., Mourant, A. E., Race, R. R.: Lancet, 2:15, 1945a.

Hayem, G.: Sur une variete particuliere, d'icteres chronique, ictere infectieux chronique splenomegalique, Presse Med., 6:121, 1898.

Minkowski, O.: Veben eine hereditare, unter dem Bilde eines Chronischen Icterus Mit Urobilinorie, Splenomegalie und Nicrensiderosis Verlonfende Affection, Verhandl, Cong. f. inn. Med. 18:316, 1900.

Widal, F., Abrami, P., and Brule, M.: Differenciation de plusieurs types d'icteres hemolytique, Presse Med., 15:641, 1907.

Cytologic and Radiologic Observations in Lymphosarcoma of the Stomach

Report of a Case

K. F. Ernst, Col. (M.C.), Thomas T. Beeler, Lt. Col. (M.C.), and Lewis A. Smith, Major (M.C.)
San Francisco

LYMPHOSARCOMA of the stomach is a relatively uncommon tumor, usually not diagnosed preoperatively,[2, 9] but since nearly 600 cases have been reported[12] in numerous excellent papers, the addition of a single case report could not be justified without good reason. The authors have seen no reports of cytologic examination of gastric contents in this disease, however, so the cytologic observations and radiologic features in the case herein reported were considered worthy of record.

Gastric lymphosarcomas are commonly located on the greater or lesser curvatures or on the posterior wall, with the orifices usually free.[8, 13] In contrast with carcinomas they originate in the submucosa and tend to ulcerate the mucosa late in the disease, but extension to the serosa with perforation occurs more commonly than in carcinoma.[2]

Symptoms are not characteristic and may suggest a peptic ulcer.[2, 10, 13, 14] On gastroscopic examination, a smoothly marginated polypoid submucous tumor covered by relatively normal mucous membrane, diffuse enlargement of rugae, and ulcerated lesions covered by a gelatinous secretion are suggestive of lymphosarcoma.[11, 13] Similar observations demonstrated by roentgenologic examination are also suggestive of lymphosarcoma, although it should be noted that these signs may occur also with carcinomas.[1, 3, 4, 5, 6, 7, 15]

REPORT OF CASE

The patient, a 31-year-old white male physician, entered the hospital on Sept. 12, 1949, complaining of diarrhea, progressive anorexia, and abdominal pain of six months' duration, with a weight loss of 15 pounds. The diarrhea was of the magnitude of eight to ten daily liquid stools, without mucus or gross blood. The pain was mainly on the right side of the abdomen, but tended to involve the entire abdomen when severe, and appeared about four hours after meals. It was relieved by ingestion of milk, cheese or Amphojel,® by atropine, or by a bowel movement. Alcohol, bulky food, and exercise aggravated the pain. In June 1949, thinking he had amebiasis, the patient treated himself with chloroquine, which relieved the symptoms for a few days. There was occasional vomiting. The patient had not been jaundiced.

Four years previously a similar episode of diarrhea, lasting three months, had occurred. No parasites were found at that time and roentgen investigation was reported to have indicated "gastrointestinal allergy." The axillary, cervical, and inguinal lymph nodes were known to have been enlarged for more than 20 years, but in the patient's opinion there had been no recent change in that respect.

The patient was well developed, but thin. Pallor was the most striking feature in his appearance. Several discrete cervical, inguinal, and left axillary lymph nodes 0.5 to 1 cm. in diameter, and a small left epitrochlear node were palpated. Mild mid-epigastric tenderness was noted. The hemoglobin content of the blood was 10.9 gm. per 100 cc. Leukocytes numbered 8,300 with neutrophils 76 per cent, lymphocytes 12 per cent, monocytes 7 per cent, and eosinophils 5 per cent. The packed red cell volume was 37 per cent of the whole blood. There was occult blood in one of three stool specimens. Gastric analysis showed 61 degrees free, 75 degrees total acidity. Results of thymol turbidity and flocculation tests were normal. The albumin and globulin contents of the blood and the ratio also were normal.

A massive fasting residue was observed in the initial roentgen gastrointestinal examination and at six hours there was 75 per cent barium residue in the stomach. Large rugae were observed, and there was a suggestion of a large shallow ulcer crater. In a roentgen examination, following a week of gastric lavage, a large ulcerating lesion (Figures 1 and 2) was observed on the posterior wall of the pars media of the

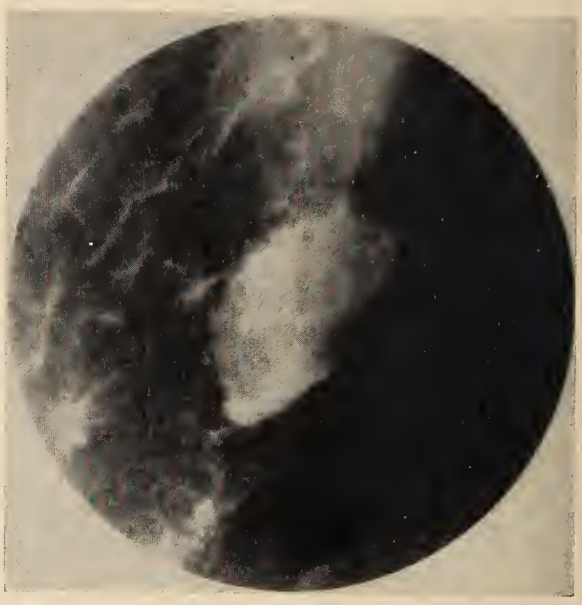


Figure 1.—Left anterior oblique spot film, showing crater and enlarged rugae.

Figure 2.—Right anterior oblique spot film, showing posterior location of ulcer.

From the Departments of Pathology, Surgery, and Radiology, Letterman Army Hospital, San Francisco.

stomach, near the greater curvature, with enlargement of the rugae in the distal two-thirds of the stomach. There was no obstruction at this time. In a roentgen examination with barium enema a narrowing of the transverse colon near the splenic flexure, with no disturbance in the mucosa, was observed. This apparently was the result of extrinsic disease. The x-ray diagnosis was ulcerating lesion of the stomach.

In gastroscopic examination, generally enlarged gastric rugae and a large defect in the gastric mucosa were observed. The base of the ulcer was 5 x 4 cm. in diameter with heaped-up, irregular, and undermined margins, and a bloody exudate in several areas in the margins. The gastroscopic diagnosis was ulcerating lesion, most likely carcinoma.

Malignant cells were noted in microscopic examination of smears prepared from material obtained by gastric lavage, stained by the Papanicolaou technique, and a hematoxylin- and eosin-stained paraffin button. Partial gastrectomy with gastrojejunostomy was carried out Oct. 3, 1949.

At operation, a rough, nodular, brawny lesion was palpated along the mid-portion of the greater curvature. There were numerous enlarged lymph nodes around the pylorus, and others extended along the course of the aorta to the under surface of the diaphragm. The liver was apparently not involved. The lesion had penetrated the posterior stomach wall, perforated, and attached itself to the superior surface of the transverse mesocolon, causing the deformity of the transverse colon noted in x-ray examination. Grossly observed, the lesion was thought to be lymphosarcoma. Fifteen days after operation roentgen therapy, directed toward the periaortic nodes, was started.

Pathologic Examination: On Sept. 27 gastric lavage (referred to previously) was done and, after centrifugation, smears were prepared from the sediment and stained by the Papanicolaou technique, using EA65 as a counterstain. A paraffin button was prepared from the remainder of the sediment, and stained with hematoxylin and eosin. In microscopic examination of the smears (Figure 3) and paraffin button sections, numerous atypical cells, occurring singly and in small clumps, were observed. These cells were sometimes multinucleated but were usually mononucleated and the criteria of malignancy observed in them included prominent nucleoli, condensation and stringing of chromatin, dense, often irregular nuclear membranes, and abnormal nuclear-cytoplasmic ratio. These cells, although considered malignant, differed from those in epithelial malignant diseases of the stomach previously observed in this laboratory by virtue of the extremely vesicular nucleus. Hyperchromatism, commonly described in malignant cells in gastric washings, was not observed in this case.

The operative specimen submitted for pathologic examination (Figure 4) consisted of the greater portion of a stomach as well as a separate lymph node. In external examination of the stomach, the posterior wall was observed to be thickened, with a perforation near the greater curvature. A tumor mass measuring 16.5 x 15.5 x 2 cm. was observed on the mucosal surface. The rugal pattern adjacent to the tumor in general was accentuated, but alternating areas of smoothness and nodularity were observed in other areas.

Sections were taken through the ulcerated area, through the principal bulk of the tumor, and at both lines of resection. In the latter areas the stomach was free of tumor. The tumor of the stomach and the lymph node were similar in histologic appearance. In both there was widespread infiltration by mature and immature lymphocytes which involved all layers of the stomach (Figure 5). There was no increase in reticulum in either the lymph node or the sections from the stomach, and no atypical cells suggestive of Sternberg-Reed cells were identified. The diagnosis was lymphosarcoma of the stomach, with involvement of regional lymph nodes.

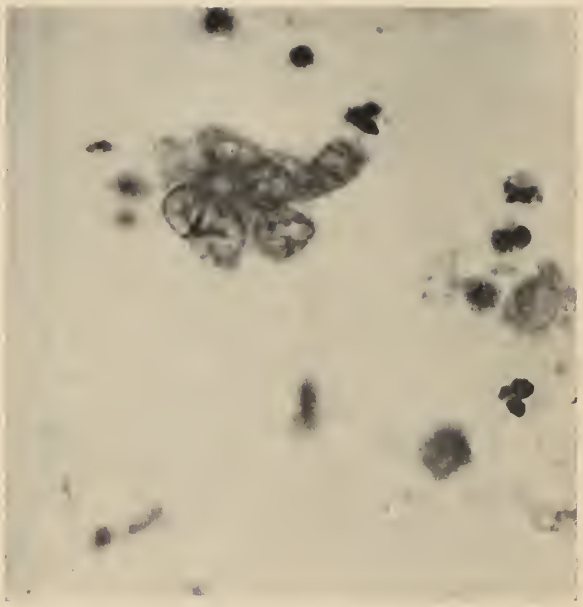


Figure 3.—Clump of malignant cells obtained by gastric lavage and stained by the Papanicolaou method (x 900).

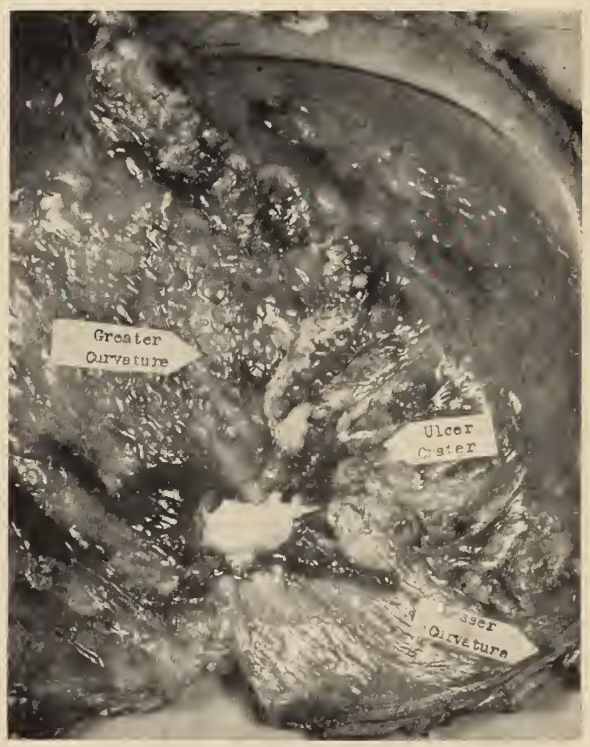


Figure 4.—Serosa of stomach, showing perforation and nodularity.

DISCUSSION

The clinical diagnostic indices of lymphosarcoma of the stomach are so similar to those of carcinoma that the true diagnosis may be given little consideration. Age appears to be the single factor which might arouse suspicion of lymphosarcoma in a patient who has pain suggestive of ulcer, with weight loss and anorexia, and an appearance suggesting

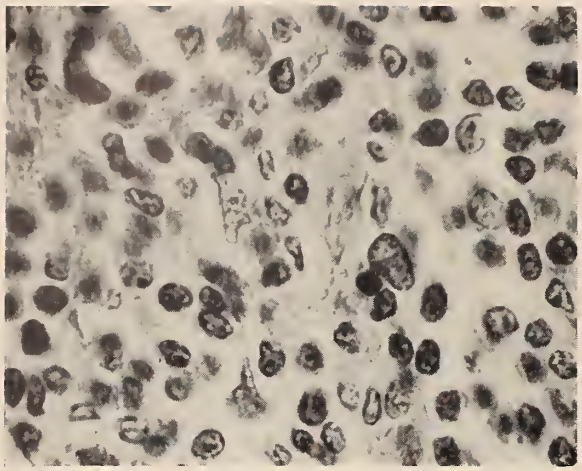


Figure 5.—Paraffin section through tumor. Hematoxylin- and eosin-stained (×900).

malignant disease. The physical findings may be minimal. Gastroscopy and roentgenology are of value in locating the disease, and in suggesting that the process may be malignant, but they are generally conceded not to replace histologic study for the differentiation of lymphosarcoma from carcinoma.

Although the cytologic examination of gastric washings in the case reported verified the preoperative clinical diagnosis of malignancy, it is believed that the procedure probably would not be too valuable in early diagnosis. The lesion does not involve the superficial structures of the stomach early, and it is probable that only after ulceration has occurred will malignant cells be recoverable from the gastric washings.

REFERENCES

1. Archer, V. W., and Cooper, G., Jr.: Lymphosarcoma of the stomach, Am. J. Roentgenol., 42:332-340, Sept. 1939.

2. Berman, H.: Lymphosarcoma of the stomach, M. Rec., 160:30-33, Jan. 1947.

3. Buckstein, J.: The Digestive Tract in Roentgenology, J. B. Lippincott Co., Philadelphia, Pa., 1948.

4. Feldman, M.: Clinical Roentgenology of the Digestive Tract, 2d Ed., Williams and Wilkins, 1945.

5. Garland, L. H.: Personal communication.

6. Holmes, G. W., Dresser, R., and Camp, J. D.: Lymphoblastoma, Radiology, 7:44-50, July 1926.

7. Hubeny, M. J., and Delano, P. J.: Retothel sarcoma of the stomach, Radiology, 34:366-368, March 1940.

8. Madding, G. F., and Walters, W.: Lymphosarcoma of the stomach, Arch. Surg., 40:120-134, Jan. 1940.

9. McSwain, B., and Beal, J. M.: Lymphosarcoma of the gastrointestinal tract, Ann. Surg., 119:108-123, Jan. 1944.

10. O'Donoghue, J. B., and Jacobs, M. D.: Lymphosarcoma of the stomach, Am. J. Surg., 58:246-253, Nov. 1942, and Am. J. Surg., 74:174-179, Aug. 1947.

11. Rafsky, H. A., Katz, H., and Krieger, C. I.: Varied clinical manifestations of lymphosarcoma of the stomach, Gastroenterology, 3:297-305, Oct. 1944.

12. Singleton, A. O., Jr., and Moore, R. M.: Lymphosarcoma of the gastrointestinal tract, Texas Rept. Biol. & Med., 7:33-46, Summer, 1949.

13. Spencer, F. M., Collins, E. N., and Renshaw, R. J. F.: Sarcoma of the stomach, Cleveland Clin. Quart., 14:282-295, Oct. 1947.

14. Taylor, E. S.: Primary lymphosarcoma of the stomach, Ann. Surg., 110:200-221, Aug. 1939.

15. Weber, H. M., Kirklin, B. R., and Pugh, D. G.: Lymphoblastoma primary in the gastrointestinal tract, Am. J. Roentgenol., 48:27-37, July 1942.

California MEDICINE

OWNED AND PUBLISHED BY THE CALIFORNIA MEDICAL ASSOCIATION
450 SUTTER, SAN FRANCISCO 8 PHONE DOUGLAS 2-0062

Editor, DWIGHT L. WILBUR, M.D. *Assistant to the Editor*, ROBERT F. EDWARDS

Editorial Executive Committee

ALBERT J. SCHOLL, M.D., Los Angeles H. J. TEMPLETON, M.D., Oakland

EDGAR WAYBURN, M.D., San Francisco

For Information on Preparation of Manuscript, See Advertising Page 2

EDITORIALS

Medicine's Interest in the 1951 Legislature

California's State Legislature has now embarked on the second portion of its bifurcated session. In the first part, only emergency bills were acted upon and other proposals were introduced for consideration and action at the second part of the meeting.

Now, after a six-week recess, the actual work of passing, amending or rejecting the various bills is getting under way. The enormity of this project is apparent when it is realized that 5,167 proposed laws—a record high—were introduced in the first part of the session, with another 200 or so resolutions, constitutional amendments and other proposals also placed in the hopper. The legislators really have their hands full this year.

The record number of proposed laws brings forth two important thoughts by medical men and their allies. First, the tremendous job faced by the legislators, and the variety of proposals before them, argue conclusively for the maintenance of legislative representatives by special interests. No member of the Legislature can be expected to analyze every bill before him with a critical eye and with fair chances of picking up the multitudinous implications of the thousands of proposals. Where special or technical problems are present, it is incumbent on the professions or industries whose interests are affected to provide expert technical guidance for the legislators.

Second, the protection of the public health demands that the medical and allied professions act aggressively and courageously in meeting the numerous measures promoted by self-seekers. In the current legislative session 429 measures directly or indirectly affecting the practice of medicine or the public health were uncovered in a preliminary study of all bills. Further study of all measures, as time allows, continues to show additional proposals in this category and the total will probably run close to 600 before the session closes.

It is not the intent here to classify all these bills as the spawn of self-seekers; many of them are legitimate attempts to strengthen existing laws, to clarify misunderstandings and to make proper practice and adequate law enforcement easier for the profession and for the authorities. On the other hand, there is a multitude of measures now in Sacramento which would set up new classifications of the healing arts, would tend to make legal some practices which are now illegal or are in a shady land of indecision, or would establish new definitions of medical practice.

Many of the so-called fringe organizations seek to make their members physicians by law rather than by training. It is these groups which continue to foster legislation designed to put their members into a desirable legal and public classification and which, in the process, leave out of consideration the public interest and the public health.

The California Medical Association is fortunate in having a most efficient legislative committee of its members. Granted our Sacramento representatives have registered under the "lobbying" statutes; they are in Sacramento with a high purpose and with definite instructions as to the scope of their activities. Actually, they are watchdogs of the public health. The importance of their position cannot be overstated.

The Annual Session

May 13 to 16 will witness the Eightieth Annual Session of the California Medical Association. With due allowance for war periods and other obstacles, the numerical connotation of this meeting leads into the fact that the Association is now 95 years old and still growing lustily.

With its membership almost doubled in the past ten years and with a tremendous upsurge in state population figures, the C.M.A. each year faces new responsibilities in staging its annual meeting. For 1951 it appears that these responsibilities have been extremely well met.

The scientific program for the Los Angeles session has been arranged to permit free hours for viewing the exhibits, visiting or talking shop with friends, enjoying the recreational facilities of Los Angeles or just plain resting after concentrated effort. Speakers have been carefully selected, individual programs have been thoroughly and effectively arranged, and the timing of papers and programs has been set to insure a maximum of efficiency for the physician who wants to cover a variety of subjects.

As for exhibits, there will be a record number this year. All are screened for acceptability and all offer the busy physician a chance to condense a lot of postgraduate activity into the space of a few hours. The same is true for medical motion pictures.

On the business side, the House of Delegates meetings have been arranged to provide top efficiency for the House members, rather than an undue effort at the end of a busy day.

All in all, the 1951 Annual Session looks like an almost mandatory item on the calendar of any physician who can possibly arrange to attend.

CALIFORNIA MEDICAL ASSOCIATION

DONALD CASS, M.D. ..... President
H. GORDON MacLEAN, M.D. ..... President-Elect
LEWIS A. ALESEN, M.D. ..... Speaker
DONALD A. CHARNOCK, M.D. ..... Vice-Speaker
SIDNEY J. SHIPMAN, M.D. ..... Council Chairman
ALBERT C. DANIELS, M.D. ..... Secretary-Treasurer
DONALD D. LUM, M.D. ..... Chairman, Executive Committee
DWIGHT L. WILBUR, M.D. ..... Editor
JOHN HUNTON, Executive Secretary ..... General Office, 450 Sutter Street, San Francisco 8
ED CLANCY, Field Secretary ..... Southern California Office, 417 South Hill Street, Los Angeles 13. Phone: MAdison 8863

NOTICES AND REPORTS

Executive Committee Minutes

Tentative Draft: Minutes of the 225th Meeting of the Executive Committee of the California Medical Association, San Francisco, February 15, 1951.

The meeting was called to order by Chairman Lum in Room 218, St. Francis Hotel, San Francisco, at 2:15 p.m., Thursday, February 15, 1951.

Roll Call:

Present were President Cass, President-Elect MacLean, Speaker Alesen, Council Chairman Shipman, Auditing Committee Chairman Lum and Secretary-Treasurer Daniels. Absent for cause, Editor Wilbur. Present by invitation, Executive Secretary Hunton and Legal Counsel Hassard.

1. *California Taxpayers' Association:*

On motion duly made and seconded, it was voted to contribute $500 to the California Taxpayers' Association as a measure of appreciation for the services this organization has performed.

2. *California State Nurses' Association:*

Discussion was held on a request of the California State Nurses' Association for the inclusion of nursing in contracts issued by California Physicians' Service. It was pointed out that this was properly an item for consideration by C.P.S. and no action was taken.

3. *San Bernardino-Riverside Blood Bank:*

On the approval and request of the Blood Bank Commission, it was regularly moved, seconded and voted to extend a loan of $10,000 to the blood bank of San Bernardino and Riverside counties, legal counsel to handle details of the note and agreement for repayment.

4. *Doctor Lee Proposal:*

The committee discussed a proposal placed before the Council by Dr. Russel V. Lee. After discussion, it was regularly moved, seconded and voted to table this proposal pending receipt of additional details.

5. *Appropriation of Funds:*

Discussion was held on a suggestion by the Council Chairman for consideration of all requested appropriations by the Auditing or other committee prior to action by the Council. On motion duly made and seconded, it was voted to instruct legal counsel to prepare a by-law amendment to require the prior approval of a designated committee for the appropriation of any funds in excess of the budget and in excess of a designated minimum.

6. *Proposed Survey of Health Insurance Policyholders:*

It was regularly moved, seconded and voted to name Doctors Cass and MacLean to an advisory committee to an organization which proposes to survey the number of holders of voluntary forms of health insurance, the advisory committee to consider only the scope and form of the survey, not its detailed performance.

It was regularly moved, seconded and voted to instruct the Executive Secretary to secure cost estimates on other forms of spot checks of voluntary health insurance policyholders.

It was regularly moved, seconded and voted to table a proposal placed before the Council for a similar survey to be made by one of the universities.

7. *California Society for Medical Research:*

On motion duly made and seconded, it was voted to request the California Society for Medical Research to refer to the Committee on Public Policy and Legislation any item of proposed legislation or other matters of joint interest.

8. *Student American Medical Association:*

A request for the naming of California Medical Association representatives on local advisory committees of the Student American Medical Association was read and discussed and it was regularly moved, seconded and voted to refer this matter to the House of Delegates as a Council recommendation.

9. *Annual Conference of County Medical Society Secretaries:*

It was regularly moved, seconded and voted to hold the next Council meeting on March 17 and the Conference of County Medical Society Secretaries on March 18, in San Francisco. The Secretary was instructed to prepare the agenda for the conference.

10. *Committee on Scientific Work:*

The Secretary-Treasurer, as Chairman of the Committee on Scientific Work, asked approval of a long-standing rule of the Committee which requires that meetings of other scientific organizations be scheduled for the days preceding or following the Annual Sessions of the Association. On motion duly made and seconded, it was voted to affirm and enforce this ruling and to so advise the Secretary-Treasurer and the Editor.

11. *Proposed By-Law Amendments of Woman's Auxiliary:*

Two by-law amendments proposed by the Woman's Auxiliary were presented for Council approval, in accordance with constitutional requirements. These amendments dealt with routine changes to show the change in name of the magazine *Hygeia* to its new title of *Today's Health*. It was regularly moved, seconded and voted to recommend Council approval of these changes.

12. *Public Relations Proposal:*

It was regularly moved, seconded and voted to refer to the Committee on Public Policy and Legislation a proposed program of seeking endorsements for voluntary health insurance.

13. *Public Policy and Legislation:*

Discussion was held on four proposed legislative measures affecting the practice of physical therapy. It was pointed out that the Council had already approved two measures submitted in behalf of the American Physical Therapy Association, California division, and had disapproved two other measures submitted for another organization. It was regularly moved, seconded and voted to reaffirm this Council action, and the Executive Secretary was instructed to advise all Councilors as to the numbers of the specific measures approved and disapproved, as a means of eliminating possible confusion.

14. *American Medical Education Foundation:*

On the basis of expressions of opinion from selected county medical societies, it was regularly moved, seconded and voted to appropriate $100,000 to the American Medical Education Foundation.

Adjournment:

There being no further business to come before it, the meeting was adjourned at 5:45 p.m.

DONALD D. LUM, M.D., *Chairman*
ALBERT C. DANIELS, M.D., *Secretary*

Herbert C. Moffitt, Sr.

Reprinted, by permission, from *The Bulletin, San Francisco Medical Society*, March, 1951.

Herbert C. Moffitt, Sr. died at the University of California Hospital on February 5, 1951, after a short illness, thereby ending a fifty-year-long medical career which had encompassed essentially all the fields of activity in his chosen profession of medicine, and brought to him all of the honors and awards that can come to one in such a long active career.

Doctor Moffitt was born in San Francisco, December 9, 1867. After his preliminary schooling here he entered the University of California with the class of 1889. Early in his undergraduate career it was obvious that he was going to be an outstanding individual, for in the year of his graduation from the University he was class medalist: a medal awarded for outstanding leadership and scholastic ability. After receiving his bachelor's degree from the University of California, he went to Boston and there obtained his formal medical education at the Harvard University Medical School, winning the degree of M.D. in 1894. He served his internship in the Massachusetts General Hospital. With the early realization that additional knowledge and broad training in medicine were essential, he went to Europe and spent several years in postgraduate study in the various medical centers of the Old World, including Munich, Berlin, Paris and Vienna.

After this period of study, he returned to his native San Francisco to practice, and to begin the

long and eventful career of medical teaching and administration which made him so well known and loved by his students and associates. He obtained his license to practice in California in 1897. In 1898 he became a member of the San Francisco Medical Society, and was elected its president in 1915.

He was married in 1899 to Miss Marguerite Jolliffe. Mrs. Moffitt, a daughter, Mrs. Alice Trapnell, and a son, Herbert C. Moffitt, Jr. survive him.

Shortly after returning to San Francisco, and following his natural ability as a teacher, he became associated with the University of California in 1899 as lecturer in medicine. In 1900, he was appointed professor of medicine at the University of California. He was made dean of the medical school in 1912, which post he held until called to active duty, as a major, in the United States Army Medical Corps in 1918.

When, in 1911, the regents and President Benjamin Ide Wheeler deemed it advisable to reorganize the University of California Medical School, it was only natural that all should turn to Doctor Moffitt to direct this reorganization. As dean of the medical school at this time he made a tour about the country studying other medical schools, their administration, teaching, and research facilities. Shortly after he returned to San Francisco he brought to the University of California such men as George Whipple, Karl F. Meyer, Frank Lynch, Herbert M. Evans, and William P. Lucas. These men became heads of various departments and served long and actively in their positions.

Having enlarged the faculty, the next step was to enlarge the physical facilities of the medical school. The most obvious need was for a new teaching hospital. Doctor Moffitt went out almost alone among his friends and obtained from them funds with which to build and equip the present structure, which was completed in 1917.

It was only shortly after the new facility was finished that Doctor Moffitt left for his Army service. When he returned to the University to teach he became chairman of the division of medicine, as well as professor of medicine, which posts he held until 1927. He became emeritus professor of medicine in 1937, and after this, though theoretically in retirement, little was ever done or programmed at the medical school without consultation with the "Chief" as he had long since come to be known.

His prime interest during his entire career was the University of California Medical School, and nearly everything he did was influenced by his thoughts about it. It seems, therefore, indeed fitting that the new teaching hospital now being constructed on Parnassus Heights should be named the "Herbert C. Moffitt Hospital." When this announcement was made he was, in his self-effacing way, much opposed to accepting this honor but the University authorities insisted and the new building will bear his name.

In his actual professional work, Doctor Moffitt was primarily a clinician, and carried his exceptional clinical ability into all the work that he did, both as a background for his teaching and in his private practice. His fame spread early and he became one of the nation's best-known medical clinicians. He was a member of the Association of American Physicians and its president in 1922.

Always interested in medical education, he was an ardent proponent of the bedside method of teaching, and to all of his students and associates he will remain the clinical teacher *par excellence*. He, however, was not alone a bedside teacher but one who sought always to solve, by the research method, any problem which might arise. Because of this interest, he stimulated and directed many of his students and associates into serious research with the purpose of not only enhancing clinical knowledge but to advance the fundamentals of medicine also. His own research efforts were directed early toward pernicious anemia, coccidioides, and peptic ulcer.

It is extremely difficult to try to characterize an individual such as Doctor Moffitt, because of the unbounded energy and complex nature of the effort he put forth. He was possessed of a certain amount of apparent brusqueness and aloofness, both of which were but a thin cloak to cover up his highly sensitive and kindly nature. He was himself extremely punctual and always insisted on punctuality in his students, assistants, associates, and colleagues.

To him no problem was too small to merit complete attention, and at the same time there apparently did not exist a problem too large to be attacked. All who ever have had the privilege of observing him at the bedside, or in the consulting room, solving a difficult clinical problem by the method of direct attack, and examination and observation, rather than by the now much-used process of elimination, never would forget this incident of the highest educational value. Those in contact with him always recognized his phenomenal memory of medical literature and the cases which he had seen personally in the past. He was able always to call to mind, case details of patients seen in the long ago, or a medical article written years before, with an accuracy that astounded his listeners. He ever was eager to engage in new methods of case study and therapy but would never relinquish the tried and proven for the sake of that which was new—for the sake of its newness alone.

Doctor Moffitt's death has taken from our community a revered and beloved man, and from the University of California Medical School its foremost teacher and administrator. To his contemporaries, his associates, and his students, his passing seems to end an era. That source, to whom all might turn for aid in the solution of a problem of whatever medical nature, has been removed, and while there remain many individuals of the greatest ability in our community, few will enjoy the combined respect (which was near to reverence) and the confidence that all had in "The Chief."

EDWIN L. BRUCK

In Memoriam

Bailey, Frank J. Died in San Francisco, February 21, 1951, aged 75. Graduate of Cooper Medical College, San Francisco, 1899. Licensed in California in 1899. Dr. Bailey was a retired member of the Tehama County Medical Society, the California Medical Association, and an Associate Fellow of the American Medical Association.

✤

Enos, Manuel M. Died in Oakland, February 14, 1951, aged 75, of chronic myocarditis. Graduate of California Eclectic Medical College, Los Angeles, 1896. Licensed in California in 1896. Dr. Enos was a member of the Alameda-Contra Costa Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✤

Gundrum, Willis H. Died February 12, 1951, aged 89. Graduate of the University of Pittsburgh School of Medicine, Pennsylvania, 1891. Licensed in California in 1917. Dr. Gundrum was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✤

Rey, Herman F. Died in Oxnard, February 21, 1951, aged 54. Graduate of the Universität Zürich Medizinische Fakultät, 1921. Licensed in California in 1922. Dr. Rey was a member of the Ventura County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

✤

Scherer, Carl A. Died in Marysville, February 12, 1951, aged 70, of obstruction of the common duct. Graduate of the University of Michigan Medical School, Ann Arbor, 1907. Licensed in California in 1945. Dr. Scherer was a member of the Yuba-Sutter-Colusa County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

✤

Stewart, Byron L. Died in Beverly Hills, February 5, 1951, aged 47, of coronary occlusion. Graduate of the University of Pennsylvania School of Medicine, Philadelphia, 1930. Licensed in California in 1939. Dr. Stewart was a member of the Los Angeles County Medical Association, the California Medical Association, and the American Medical Association.

✤

Tucker, James M. Died in Piedmont, February 18, 1951, aged 36, of coronary occlusion. Graduate of Jefferson Medical College of Philadelphia, 1941. Licensed in California in 1942. Dr. Tucker was a member of the Alameda-Contra Costa Medical Association, and an associate member of the California Medical Association.

Questions and Answers about C. P. S.

Question: What accounts for the delays in receiving authorizations and payments which I have experienced lately under the Veterans Program?

Answer: Recently, all medical records of veterans under treatment in Northern California were transferred by the Veterans Administration from C.P.S. offices at 450 Mission Street to the VA Regional Office at 49 Fourth Street. VA authorization officers also were transferred. Therefore, C.P.S. physician members' requests for authorization and vouchers for payment of services rendered must be relayed to the VA office by messenger, and then returned to C.P.S. offices. Physician members can be assured that any delays they have experienced recently in authorizations or payment have been unavoidable—and that these matters are handled by C.P.S. with all possible speed.

Question: When a surgical procedure is unusually complicated, of longer than average duration and requires an unusual amount of aftercare, can anything be done to have a larger fee allowed—when I feel that the fee established by C.P.S. is not sufficient?

Answer: Yes. Consideration will be given for higher fees in occasional cases of this kind.

In making payments under the C.P.S. fee schedule. it is recognized that certain cases will present greater difficulties and others will be less difficult. The fee schedule makes payments for average cases within the ordinary degree of variation. It is understood that there will be the occasional case that will require unusual or difficult management. In those instances, in warranted cases, adjustments in the fee may be made if a written report is submitted for consideration by the Medical Policy Committee.

Question: If, in my professional opinion, the fee allowed for a specific procedure is wholly inadequate, would my views be considered? If so, to whom should I address my comments?

Answer: Yes, physician members' comments relative to any item or items in the Fee Schedule are always considered. They should be sent to the C.P.S. Medical Director for forwarding to the Fee Schedule Committee.

The C.P.S. Fee Schedule is developed after extensive consideration and study by the Fee Schedule Committee and approved by the C.P.S. Board of Trustees. The Committee, appointed annually by the Council of the C.M.A., represents rural, urban and metropolitan medicine and surgery in the state. It is a permanently active group which keeps the Fee Schedule under constant study for the purpose of annual review. and fees are subject to revision by proper presentation to the Committee through the C.P.S. Medical Director.

Question: From the physician members' point of view, what purpose is served by the county review committees?

Answer: The county review committees, established in almost every county in the state, provide a permanent "sounding board" for the opinions of physician members in regard to C.P.S. policies and programs. The effectiveness of the committees is assured by the fact that they are appointed directly by each county society and are the recognized medium of bringing "grass roots" doctor opinion to the attention of C.P.S. Trustees. In short, each physician member is assured. by the democratically representative process of the county review committees, of a voice in the formulation and carrying out of C.P.S. policies.

Question: As a psychiatrist, may I receive specialist's fees through the Veterans Program?

Answer: Specialist's fees for psychiatry can be paid only to psychiatrists approved by the Veterans Administration. Approval may be obtained by submitting your qualifications to the C.P.S. Veterans Department in San Francisco, Los Angeles or San Diego. These qualifications are: (1) Certification in psychiatry by American Board of Psychiatry and Neurology, or (2) Possession of one of the following ranks in an accredited medical school—(a) any professional rank in psychiatry, (b) associateship in psychiatry.

Question: Why are C.P.S. payments on accident cases slower than on other cases?

Answer: There is always a slight delay in payment on accident cases, perhaps a matter of a few weeks, because of the possibility of third party liability in the accident.

If, upon investigation, C.P.S. finds there is no third party liability, payment to the physician is made without further delay. If there is third party liability and consequent additional delay in payment, the physician is so informed and is also advised of the pertinent legal aspects of the case which are of interest to him. If, ultimately, the third party liability is denied as the result of legal or other action. the physician is assured of payment from C.P.S. in accordance with the patient's contract and the C.P.S. Fee Schedule.

NEWS and NOTES

NATIONAL • STATE • COUNTY

ALAMEDA

A joint meeting of **The Northern California Rheumatism Association** and the Alameda-Contra Costa Medical Association will be held Monday, April 16, at 8:15 p.m., in Hunter Hall, 1025 Second Avenue, Oakland. There will be an informal panel discussion of Newer Aspects of Arthritis. Stacy R. Mettier, M.D., will be moderator, and members of the panel are Lowell A. Rantz, M.D., James F. Rinehart, M.D., Roland Davison, M.D., Ephraim Engleman, M.D., John J. Loutzenheiser, M.D., A. Justin Williams, M.D., and Frances Baker, M.D. Physicians are cordially invited to attend.

* * *

Dr. Edwin H. Lennette, chief of the Viral and Rickettsial Disease Laboratory, California State Department of Public Health, has been appointed for a five-year term as consultant to the Surgeon General, U. S. Public Health Service, on the Viral and Rickettsial Study Section, Division of Research Grants and Fellowship of the National Institute of Health.

LOS ANGELES

At a recent meeting of the **Los Angeles Society of Allergy,** the following officers were elected: Dr. M. Coleman Harris, president; Dr. Norman Shure, vice-president; Dr. Elizabeth Sirmay, secretary.

RIVERSIDE

The Riverside Regional Medical and Surgical Institute held January 25 and 26 was attended by 150 physicians from El Centro to San Bernardino and from Santa Ana to Needles. The meeting was one of a series of seminars arranged by the Committee on Postgraduate Activities of the California Medical Association. Lecturers for the program were members of the faculty of the University of Southern California School of Medicine.

SAN FRANCISCO

Dr. John W. Cline, President-Elect of the American Medical Association, will be guest of honor at a dinner Wednesday, April 18, at the Fairmont Hotel given under the auspices of the San Francisco Medical Society. Dr. Cline will be called upon to preview his aims with regard to A.M.A. policy when he is installed as President. A number of officials of the California Medical Association and of county medical societies will attend the gathering. Members of county societies who wish to be present may make reservations through the office of the San Francisco Medical Society, 2180 Washington Street, San Francisco; WAlnut 1-6100.

GENERAL

An **International Congress of Physical Medicine** (1952) to be held in London, July 14-19, 1952, has been announced by the British Board of Management of the International Federation of Physical Medicine, which is organizing the congress.

"In accordance with the regulations of the International Federation of Physical Medicine," the announcement said, "the meetings of the Congress will be reserved for matters dealing with the clinical, remedial, prophylactic and educational aspects of physical medicine and with the diagnostic and therapeutic methods employed in physical medicine and rehabilitation."

Applications for the provisional program of the meeting should be addressed to Dr. A. C. Boyle, Honorary Secretary, International Congress of Physical Medicine, 45 Lincoln's Inn Fields, London, W.C. 2.

* * *

The 1951 meeting of the **American Goiter Association** will be held in the Deshler-Wallick Hotel, Columbus, Ohio, May 24-26. The program for the three-day meeting will consist of papers dealing with goiter and other diseases of the thyroid gland, dry clinics and demonstrations.

* * *

The Seventh Annual Meeting of the **American Society for the Study of Sterility** will be held June 9 and 10 at the Ritz Carlton Hotel, Atlantic City, N. J. Dr. Lewis Michelson of San Francisco is president of the organization.

* * *

Grants earmarked for support of specified physicians and their research were made last month to three California medical schools by the **John and Mary R. Markle Foundation.** The grants, which were among 20 awarded by the Foundation in its program "to keep young doctors on medical school teaching and research staffs," are for $30,000 each and are to be disbursed at the rate of $6,000 a year for a five-year period. Previous grants were for $25,000 for five years, and it was announced that, beginning July 1, the increase of $1,000 a year will apply also to the remaining period covered by current grants made in the last three years.

The three grants for instructors in California medical schools are:

Earl Eldred, M.D., intern, Virginia Mason Hospital, Seattle; after July 1, instructor in anatomy, University of California, Los Angeles. Anatomy and neuro-anatomy. Grant to University of California School of Medicine, Los Angeles.

Herbert Hultgren, M.D., instructor in medicine and pediatrics, Stanford University School of Medicine, and director of the Laboratory of Cardiovascular Physiology, Stanford Hospital. Internal medicine and cardiovascular disease. Grant to Stanford University School of Medicine.

Samuel J. Kimura, M.D., instructor in Ophthalmology, University of California School of Medicine. Ophthalmology; bacteriology, immunology. Grant to the University of California School of Medicine, San Francisco.

* * *

The program for the annual scientific meeting of the California Heart Association, to be held Wednesday, May 16, in Los Angeles, follows:

BILTMORE HOTEL, MUSIC ROOM
1:30 to 5:00 p.m.

1. Physiologic and Diagnostic Problems in Auricular Septal Defect—George C. Griffith, M.D., Richard S. Cosby, M.D., David C. Levinson, M.D., and Willard J. Zinn, M.D., Los Angeles.
2. Differential Diagnosis of Transposed Pulmonary Veins and Auricular Septal Defect—David C. Levinson, M.D., Los Angeles.

3. Correlation of the Electrocardiographic and Catheterization Findings in Right Ventricular Hypertrophy Due to Congenital Heart Disease—Richard S. Cosby, M.D., Los Angeles.
4. Pulmonary Stenosis—Sidney S. Sobin, M.D., and Walter S. Thompson, Jr., M.D., Los Angeles.
5. Clinical and Physiological Studies in Preparation for Commissurotomy in Mitral Stenosis—George C. Griffith, M.D., Los Angeles.
6. Diurnal Variation of Urinary Excretion in Normal Individuals and in some Edema-Forming Diseases—Ralph Goldman, M.D., and Samuel H. Bassett, M.D., Los Angeles.
7. A One-Year Clinical Follow-Up Study of SF 10-20 Lipoprotein Molecules in Atherosclerosis—Thomas B. Lyon, M.D., John Gofman, M.D., Ph.D., Frank Lindgren, B.S., and Hardin Jones, Ph.D., Berkeley.
8. Studies on The Shock Syndrome Produced by Experimental Myocardial Infarction in Dogs—Clarence M. Agress, M.D., Los Angeles.
9. Electrolyte Balance Following Human Myocardial Infarction: Evidence of a Probable Stress Reaction—John J. Sampson, M.D., Paul Toch, M.D., Meyer Friedman, M.D., Kalmen A. Klinghoffer, M.D., and Robert Kalmansohn, M.D., San Francisco.
10. Hyperventilation Syndrome in Functional Cardiovascular Disease and Its Relation to "Diaphragmatic Inertia" —Meyer Friedman, M.D., San Francisco.
11. Prostigmine Bromide Orally in the Prevention of Supraventricular Paroxysmal Tachycardia—Eugene B. Levine, M.D., Los Angeles.
12. Observations on the Action of Drugs in Complete Heart Block—Morris H. Nathanson, M.D., and Harold Miller, M.D., Los Angeles.
13. Further Experiences with the Use of ACTH in Rheumatic Fever—Jack A. Scheninkopf, M.D., Los Angeles.
14. The Innocuousness and Effectiveness of Lanatoside C in "Benign" Ventricular Tachycardia—Edward Shapiro, M.D., and Herman Weiner, M.D., Beverly Hills.

POSTGRADUATE EDUCATION NOTICES

For more complete information as to fees and time of sessions address the institutions as listed.

THE COLLEGE OF MEDICAL EVANGELISTS

Endocrinology (8 periods). Dr. Julius Bauer. Tuesdays: 8:00-9:30 p.m., Room 3635, Los Angeles County General Hospital. April 3 through May 22, 1951. Tuition: $30.00.

This course is designed for the postgraduate student of internal medicine as well as the general practitioner. Special emphasis is placed on the practical application of glandular diseases to the everyday problems in medical practice.

Minor Orthopedic Surgery (8 periods). Dr. Alonzo J. Neufeld. Thursdays: 8:00-9:30 p.m. April 12 through May 31, 1951. Tuition: $30.00.

Subjects covered in this course will be those in which the general practitioner should have working knowledge, such as low back pain, arch strain, surgery of the hand and foot, besides the common lesions affecting the major joints of the extremities —shoulder, elbow, hip, and knee. Illustrated by anatomical material and slides, as well as clinical material.

Contact: H. M. Walton, M.D., 312 North Boyle Street, Los Angeles 33, California.

15. A Clinical and Experimental Evaluation of Khellin in the Treatment of Angina Pectoris—Herbert N. Hultgren, M.D., Leyland E. Stevens, M.D., and H. Schuyler Robertson, M.D., San Francisco.

BOOK REVIEWS

PROGRESS IN GYNECOLOGY, Volume II. Edited by Joe V. Meigs, M.D., Clinical Professor of Gynecology, Harvard Medical School; Chief of Staff of the Vincent Memorial Hospital, the Gynecological Service of the Massachusetts General Hospital; and Somers H. Sturgis, M.D., Clinical Associate in Gynecology, Harvard Medical School; Assistant Surgeon, Massachusetts. Grune & Stratton, New York, 1950. $9.50.

The second volume of "Progress in Gynecology" recently has come off the press, and, as the title indicates, we would expect it to be replete with new and useful information on all that has transpired in gynecology since the issuance of its predecessor in 1946. But alas, the few years that have gone over the hill have left us preciously little that could be considered new in concept or technique in the practice of gynecology, for as in all other branches of medicine, progress in gynecology comes in fits and spurts followed by long stretches of profound barrenness. A large portion of the new volume is not much different from the old one, albeit the editors state that much of the subject matter has been rewritten and that new chapters have been added. Yet the elaboration of old chapters and the unavoidable duplication resulting from having several authors treat the same subject has not particularly enhanced the value of the original intent to add to our current knowledge. And, although the second volume parades 250 pages more than its predecessor the reviewer does not find that the extra amount of print necessarily indicates progress but rather the more thorough reboiling of old bones. Taking a long view at the sincere intent of the editors to edify their readers one must conclude that the new book is not so much a second volume as an enlarged second edition.

Your reviewer has no quarrel with the content of the book. Its quality is good, although some chapters could have been treated with greater discretion regarding the relative value of certain diagnostic and therapeutic matters, for the book is meant to serve as a graduate text. Originally the "Progress in Gynecology" was meant to take the place of a "refresher" for those whose long absence with the military had disrupted their contact with gynecology; and its sale, and the willingness of the publishers to turn out a second volume, indicate that the book served its purpose at the time. That need has changed. As graduate information the "Progress" covers a wide range of information, largely of the standard type, and as a collection of personal views of 75 or more contributors it presents a fair cross-section of the thinking of Eastern gynecologists and some foreigners. If the title is not taken too literally, "Progress in Gynecology" makes good reading.

* * *

THE ANTIHISTAMINES, Their Clinical Application. By Samuel M. Feinberg, M.D., Associate Professor of Medicine, Saul Malkiel, Ph.D., M.D., Assistant Professor of Medicine, and Alan R. Feinberg, M.D. The Year Book Publishers, Inc., Chicago, 1950. $4.00.

This book provides a good comprehensive review of the antihistamines. It is concise and, for the busy practitioner, quite adequate. The authors, who are well suited to writing such a book, have covered the entire field of the antihistamines from their early conception to their growth as a $100,000,000 industry. One criticism which may be offered is that the section devoted to the history of the drugs is too brief for such an interesting topic.

In this book, the antihistaminics have very usefully been divided into three categories according to their parent structure. By following such a guide the practitioner can easily determine which particular drug to use in a given patient where a previously used antihistaminic has been found ineffective.

A very difficult problem has been attempted by the authors, namely, to list the various antihistaminic drugs in order of their effectiveness. Such an evaluation is very difficult, as the authors correctly point out, because among other reasons it depends upon which property of the antihistamine the particular investigator is attempting to measure, since it is definitely known that these drugs possess several properties apart from their histamine-inhibiting effect.

The authors have attempted, after much research, to condense into this small book most of the literature on the antihistaminics and to indicate our present day knowledge of them. This is by no means a reference book, nor is it intended to be, but it is ideally suited for the busy doctor who wants to acquaint himself with this large and relatively new subject. Numerous articles have been reviewed and a most extensive bibliography is included. Since the antihistamines are or have been employed in practically every branch of medicine, the authors have attempted to cover each specialty separately and to discuss briefly the merits of these drugs in the particular specialty.

The book is quite complete, consisting of a brief description of histamine, the chemistry and pharmacology of the antihistaminics, their clinical aspects and the toxic effects which may occur and which should be looked for following their administration. There is also included a handy table listing the various antihistaminics on the market and the dosage of each commonly employed.

All in all, it is well arranged, easy to read, concise, yet containing a great deal of information. This book is recommended to make us more aware not only of the indications but especially the limitations of the antihistamines.

* * *

THE MASK OF SANITY—An Attempt to Clarify Some Issues About the So-Called Psychopathic Personality. By Hervey Cleckley, M.D., Professor of Psychiatry and Neurology, University of Georgia School of Medicine, Augusta, Georgia, Second Edition. The C. V. Mosby Company, St. Louis, 1950. $6.50.

This is a greatly enlarged second edition, much of which has been rewritten. The subtitle of the book, "An attempt to clarify some issues about the so-called psychopathic personality," describes the material given. The book starts out with a discussion of the problem of sanity and some discussion of the use of the term "psychopathic personality." There then follow nearly 200 pages of descriptions of actual clinical cases. Another 80 pages are devoted to comparing and differentiating the psychopathic personality from other abnormal mental conditions. About 40 pages are spent in a description as to what are the essential features in psychopathic personality. Following this, about 150 pages are devoted in an attempt to state what is wrong with these patients, what has brought about this condition, and what can be done about it. Views of other persons as well as of the authors are well presented, and there are 226 references.

Anyone who wishes to study the problem of the psychopath should read this book. It contains much valuable information, is presented in an interesting fashion, and is an important contribution to this whole problem.

THE MANAGEMENT OF OBSTETRIC DIFFICULTIES. By Paul Titus, M.D., Obstetrician and Gynecologist to the St. Margaret Memorial Hospital, Pittsburgh. With 446 illustrations and 9 color plates. Fourth Edition. The C. V. Mosby Company, St. Louis. 1950. $14.00.

This volume of more than a thousand pages has appeared in three previous editions and now is fairly well known to all obstetricians. In this latest edition certain new hits of information and a few revisions of opinions may be found in the sections dealing with abortion, placenta praevia, toxemia of pregnancy, induction of labor, pelvimetry, and obstetric anesthesia, just to mention a few. However, the additions appear to outstrip the revisions, with the result that the book is strangely uneven, retaining many outmoded notions and techniques but at the same time including much material of recent origin. It is unfortunate that the author so often has chosen to quote verbatim and at great length from periodicals and monographs rather than condense such material into a form more useful for one who is seeking a prompt and suitable way out of an "obstetric difficulty." The liberal use of quotation marks can quickly increase the thickness of a book without improving its literary qualities.

While the author takes pains to point out that this volume is not a textbook, since some of the conventional subjects have been excluded, there is little of importance in this book that cannot be found in any of the standard American obstetrical texts. And in at least some of the latter the quality of expression is far superior and perhaps less confusing to the general practitioner. Your reviewer has no quarrel with most of the sound and conservative views set forth in this volume, but he does feel that the text is in need of a severe pruning. To do justice to the intriguing title, the truly difficult obstetric problems should be better illuminated, and much of the boresome parade of standard facts and figures should be left to the sources from which they came.

It is noteworthy that Titus has agreed with the editors of two major obstetrical textbooks (Williams and DeLee-Greenhill) regarding uniform definitions for some of the classical obstetrical terms and procedures. This would seem to be a commendable move and should be welcomed by all teachers of the obstetric art since it may eliminate much of the senseless quibbling over minor variations in terminology. On the other hand, one might predict a certain amount of dissatisfaction with the new deal conjured up by these three self-appointed representatives. No set of definitions, however thoughtfully arrived at, could satisfy everyone concerned.

* * *

PRINCIPLES OF GENERAL PSYCHOPATHOLOGY—An Interpretation of the Theoretical Foundations of Psychopathological Concepts. By Siegfried Fischer, M.D., Clinical Instructor in Psychiatry, University of California, Formerly Professor of Psychiatry and Neurology, University of Breslau. The Philosophical Library, New York, 1950. 327 pages. $4.75.

In view of the many schools of thought in present-day psychological theory and practice, it takes courage to present a survey of psychopathological phenomena. This volume is divided into four sections. The first deals with fundamentals of psychopathological concepts—perception, thought, memory, consciousness, unconsciousness, apperception, orientation, emotion, volition, intelligence, language and their disturbances. The second part describes "comprehensible and causal connections" and those connections which become comprehensible through uncovering the unaware. Syndromes or symptom complications of mental disturbances are reviewed in the third section, and the abnormal personality, various types of personalities, the relation of personality to psychoses, and the differences between the neurotic and psychopathic personalities in the last section.

The author has made a sincere and conscientious effort to present his thesis in a well organized, lucid fashion, but the rather stilted, ponderous style and language interfere with the clarity of expression. For example, in describing the symptom in which schizophrenic patients complain of hearing their own thoughts, he calls this "Gedankenlautwerden"; the "relation of reference" is "Zuordnung"; "incoherence" is "Zerfahrenkert"; and "prolixity" is "Weitschweifigkeit." In the discussion of the agnosias and aphasias, the author might well have referred to the work of Henry Head in England and to J. M. Nielsen in this country. An attempt is made to differentiate feeling, affect and mood, but this is not too clear. For instance, "Feelings are related to objects, while affects are relative to 'Sachverhalt.'" The author bases his "dynamic" psychology on what he calls "comprehensible" connections, in contrast to the "causal" approach and method of investigation of the natural sciences. "Psychoanalysis, therefore, is based on comprehensible, not causal, connections, dynamic psychology is based not on the causal principle but the principle of meaning and purpose." It is emphasized that certain connections may become comprehensible through uncovering what is repressed and unaware. In neurotic reactions, anxiety arises from the child's feelings of helplessness. This feeling of helplessness and concomitant feelings of inferiority are regarded as the most profound trauma in the lives of many neurotics, and the author criticizes Freud for regarding "children's needs as exclusively sexual" and overlooking and failing to explain the origin of inferiority feelings. There are many psychoanalysts who would quarrel with such a criticism.

The author believes that "in psychopathology and in psychiatry we assume that all mental processes have a physical basis." He firmly believes, and he has done considerable investigation in this field, that "there is a connection between the anterior lobe of the pituitary, the metabolism, and the psychotic symptoms of schizophrenia." In the discussion of hereditary factors in mental illness, the author fails to mention Kallman's painstakingly detailed studies of identical and non-identical twins suffering from mental illness. Many authors would quarrel with the author's statement that the psychopathic personality has an "innate" predisposition.

There is much that is dogmatically presented and is still quite controversial in this volume on psychopathology. For this reason it is not considered appropriate reading for the medical student. For the general medical man it may be regarded as too technical, and the psychiatrist would find much with which he would disagree. Nevertheless, it provides stimulating reading for those who are interested in psychopathological descriptions and theories.

* * *

THE LOW FAT, LOW CHOLESTEROL DIET—What to Eat and How to Prepare It. By E. Virginia Dobbin, Senior Dietitian, E. V. Cowell Memorial Hospital, University of California, Berkeley; Helen F. Gofman, M.D., San Francisco; Helen C. Jones, Home Economist, Berkeley; Lenore Lyon, San Jose; Clara-Beth Young, Dietitian, E. V. Cowell Memorial Hospital, University of California, Berkeley. Doubleday & Company, Inc., Garden City, N. Y., 1951. 371 pages. $3.45.

The authors have compiled a practical handbook and cookbook on the low-fat, low-cholesterol diet. The presentation is simple and direct, and the text is aimed at answering specific questions concerning *how* such a diet can be constructed without burdening the reader with medical reasons. Details are given on recipes and methods of preparation and cooking of foods to make them palatable although low in fat. The book is well organized, easy and simple to read. It is designed primarily for the housewife.

SAVILL'S SYSTEM OF CLINICAL MEDICINE—Dealing with the Diagnosis, Prognosis, and Treatment of Disease for Students and Practitioners. Edited by E. C. Warner, M.D., F.R.C.P., 13th Edition. The Williams and Wilkins Company, Baltimore. 1950. 1,198 pages. $7.00.

The reviewer cannot recommend this book for either American medical students or practicing physicians. For a textbook of medicine to survive many decades through many editions, it requires an ability of the authors to discard the insignificant and emphasize the significant. With the ever-accumulating mass of clinical data, this is a duty the authors owe the reader. This textbook of medicine, however, in its 13th edition, still advocates drugs and methods of procedure that very few modern American physicians employ. Also in many instances the nomenclature as regards classification of syndromes is unwieldly. For instance, angina pectoris is still classified into four types: (1) Angina of effort, (2) spasmodic angina, (3) coronary thrombosis (status anginosis), and (4) angina innocens (pseudo-angina). This is confusing rather than clarifying, both to the student and physician. Drugs such as sulfonal, trional, and calomel which few American physicians have employed for years are still advocated. Other modes of therapy which are seldom used are advocated: On page 879, under the treatment for Meniere's disease, it is said that "blistering the mastoid may help others"; on page 514 under the treatment of anuria, "cupping, wet or dry, over the loins relieves local congestion" is another suggestion; the application of leeches "to the precordium is recommended for relief of pain of acute pericarditis" is also suggested.

The value of most books depends upon the sagacity of the authors in emphasizing the important and de-emphasizing the unimportant. It would appear that there has been little of the latter in this book. It would appear to the reviewer that this book needs intensive re-editing, with a ruthless excision of much of its obsolete material. Otherwise in his opinion this book cannot long appeal to the modern physician.

* * *

BLOOD TRANSFUSION. Edited by Geoffrey Keynes. The Williams and Wilkins Company, Baltimore, 1949. $12.50.

This book deals with all the multi-faceted problems pertaining to blood banks, and it is most pertinent because the English school of hematologists has long performed meticulous research work in all phases of blood procurement, processing, and distribution. This book maintains the high standard of work which is so characteristic of the English school. The book cover is solid, the binding is substantial, therefore the volume will withstand considerable hard use. This book will find an immediate place on laboratory shelves, for its physical sturdiness will give hard service through the years. The printing is most legible, clear-cut and nicely spaced for ease of reading.

Various men well known in their respective fields have contributed to the completion of this fine work. It was edited by Geoffrey Keynes. His former book on blood was printed 28 years ago and is still worth reading. The present edition is broken down into separate chapters, each one contributed by an expert in the field. One would suppose there might be a lot of repetitious detail, but the little repetition that does occur only serves to heighten the readability of the book. It was a matter of gratification and considerable pride to read of the inclusion of many of our American research workers. The book culls widely and intelligently from the world's literature and is catholic in that respect. This fact makes the book more authentic for those dealing with blood transfusions.

It is a real pleasure to recommend this book to all laboratory technicians, interested medical personnel, and others working in blood banks throughout the country. It will be a valuable addition to the library of anyone working in blood dyscrasias. It is particularly applicable at this time due to the widespread interest in blood, plasma, and blood derivatives during this episode of international uneasiness. Dr. Keynes and his colleagues are to be highly commended for writing such a readable, authentic book and for this new approach to the fascinating and constantly enlarging field of blood banking. The volume does not answer all questions relative to this subject but it is provocative and should stimulate a considerable amount of research work in hematology.

* * *

PRINCIPLES OF INTERNAL MEDICINE. By T. R. Harrison, M.D., Editor-in-Chief, Southwestern Medical College; with Editors Paul B. Beeson, M.D., Emory University Medical School; William H. Resnick, M.D., Stamford, Conn.; George W. Thorn, M.D., Harvard University Medical School; M. M. Wintrobe, M.D., University of Utah Medical College; and 48 Contributing Authors. 245 Illustrations. The Blakiston Company, Philadelphia, 1950. $12.00.

This is a textbook with a fresh approach to internal medicine, unhampered by the tradition of what a textbook should be like. The thesis of the book is that the classic presentation of medicine, with primary emphasis on specific disease, is inadequate and that the student cannot be expected to recognize or to manage the various manifestations of disease intelligently unless he also understand the basic mechanism of its cardinal manifestations. An attempt has been made to integrate the pertinent content of the preclinical sciences with clinical medicine, and to do this not only from the standpoint of disorders of structure, but also by way of abnormal physiology, chemistry and disturbed psychology.

The subject matter is divided into some seven parts. The first of these is on cardinal manifestations of disease and includes discussions of the major symptoms and signs and the mechanisms whereby these develop; the second part deals with certain physiological considerations which are especially germane to internal medicine; the third is concerned with reactions to stress and to antigenic substances.

The arrangement of the last four parts of the book is more like that of the conventional text of medicine, proceeding from disease condition to disease condition: Part four deals with metabolic and endocrine disorders; part five with disorders due to chemical and physical agents; part six with diseases due to biologic agents and part seven with diseases of organ systems.

The book is very bulky, its 1,600 pages giving the appearance of a large dictionary. Division into two volumes would make for easier handling. In spite of this, it is not (admittedly) all-inclusive, although one might expect it to be. And although it gives a scientific underpinning to the student it is sometimes not too practical in its discussions. A few of the accounts of specific diseases do not seem as good to this reviewer as those in more conventional texts: To illustrate, the author of the chapter on the diseases of the pancreas states with regard to acute pancreatitis that "tenderness and rigidity may be detected in the epigastrium or right upper quadrant" (not the left), and that the amylase "is increased only during the early course of the disease" and suggests that the condition may be treated either medically or surgically with equal benefit. Recent experience is surely against these views.

On the whole, the authors and editors have done an excellent job. They appear as interested in such a drab but common condition as back pain as they are in such a dramatic one as pericarditis. Throughout, emphasis is laid on the mechanisms underlying disease and disease conditions. The reviewer can recommend this book for every internist interested in the scientific approach to his art. He, likewise, predicts that within two years it will be the most widely used text on internal medicine.

"YOUR PROSTATE GLAND"—Letters from a Surgeon to his Father. By Reed M. Nesbit, M.D., Professor of Surgery, University of Michigan Medical School, Chief, Section on Urology, University Hospital, Ann Arbor, Michigan. Charles C. Thomas, Springfield, Illinois, 1950. 50 pages. $2.00.

This little volume (50 pages) consists entirely of a series of seven unedited personal letters written by one of our prominent urologists explaining to his own father the problem of "prostate trouble" in the elderly male. The text is accompanied by several simple outline drawings of an explanatory nature. The book is by no means a complete exposition of prostatic disease, for the author limits himself entirely to the obstructive phenomena and their relief especially by operation. It is simply and accurately written, in a form that will appeal to the lay reader psychologically, and warns the father (and hence the reader) against any attempt at self-diagnosis and self-treatment. He is advised to consult and be guided by his physician.

Dr. Nesbit is one of the country's outstanding proponents of the transurethral resection of the prostate, and the author of an excellent book on the technique of the operation. Hence, despite his effort to be fair in his discussion of the other methods of prostatectomy, his personal preference is evident. The book is designed to be read primarily by men interested in or already suffering from prostatism, who will doubtless be influenced, whether wisely or otherwise, in favor of the transurethral technique, even though he does discuss the possible limitations of the operation. He considers the perineal approach applicable only for limited special indications, an attitude with which some of his friends will not entirely agree.

The urologist who personally favors the suprapubic method, or especially transurethral resection, can profitably recommend this little monograph to his elderly patients, especially to those who are prospective candidates for prostatic surgery. Since it is such a small volume its value might even be increased if it could be published in a paper-bound edition for gratuitous distribution to such patients.

* * *

PATHOLOGIC PHYSIOLOGY: MECHANISMS OF DISEASE. Edited by William A. Sodeman, M.D., F.A.C.P., The William Henderson Professor of the Prevention of Tropical and Semi-Tropical Diseases, Tulane University of Louisiana School of Medicine. W. B. Saunders Company, Philadelphia, 1950. $11.50.

This volume is a collaboration by 25 authors on disturbances in the structural and physiological pathology of the various organ systems of the body. It endeavors to bridge the gap between texts of physiology and medicine by presenting a clinical picture of disease seen as physiological dysfunction. An attempt is made to explain how and why symptoms appear, so that the student or physician may have a rational interpretation of his findings.

In general the contents are clearly presented. The concepts are modern, sometimes original, practically always in keeping with accepted recent investigation. There are a commendable number of clarifying diagrams and charts. An up-to-date bibliography is published at the end of each section. The general makeup and the printing are good. Comprehension of the book will give the student and practitioner a measure of understanding of the principles underlying disease states in the body.

An interesting comparison may be noted between this book and Best and Taylor's "Physiological Basis of Medical Practice." The latter, which covers similar territory (though in more inclusive manner) is written by physiologists who approach the clinical from the basic science point of view. "Pathologic Physiology," on the other hand, is written by clinicians, each of whom has explored the basic science aspect of his subject.

THE URINARY FUNCTION OF THE KIDNEY. By A. V. Wolf, Ph.D., Associate Professor of Physiology, Albany Medical College, Union University. Grune and Stratton, Inc., New York, 1950. $7.50.

This splendid book, by an active physiologist who has himself made important contributions to the subject, discusses renal function from the standpoint of regulation of the organism's internal environment rather than from the currently fashionable concept of clearances (although the latter are not ignored). The chapters are concerned with water balance and fluid transfer, regulation of body volume, body water compartments, hydration and dehydration, diuresis and diuretics, antidiuresis and antidiuretics, the endocrines in urinary function, the clearance concept, renal osmotic work, urinary specific gravity, and tests of renal function. The approach is scholarly and thorough.

The average physician will be disconcerted by the mathematics and by the use of unfamiliar words and phrases such as "minimal isorrheic concentration." It would indeed be unfortunate if he were thus driven away from these pages, for in them is a wealth of material applicable to the problems of edema and of states with depletions of water or electrolytes. The book is highly recommended for all medical libraries and students, physiologists and pharmacologists, as well as to those clinicians interested in abnormal accumulations or losses of body fluids.

* * *

THE COMMON INFECTIOUS DISEASES—A HANDBOOK FOR STUDENTS AND POSTGRADUATES. By H. Stanley Banks, M.A., M.D. (Glas.), F.R.C.P. (Lond.), Physician-Superintendent, Park Hospital, Hither Green, London. The Williams and Wilkins Company, Baltimore, 1949. $4.50.

This small volume is a most scholarly review of common communicable diseases. The fact that it was published in 1949 is little drawback to its usefulness. Only the most recent advances in antibiotic therapy are lacking (and what textbook can keep abreast of antibiotic therapy?)

The author's experience as director of large isolation hospitals in England for more than 20 years is reflected in his discussion of pathology and of differential diagnosis. Among specific topics which are examined in detail are the intensive intravenous antitoxin treatment of hypertoxic diphtheria, the cerebral and adrenal pathologic changes in meningococcal infections, and the dangers of atelectasis and subsequent bronchiectasis in whooping cough. The completeness of this little book is attested to by inclusion of such subjects as infectious mononucleosis, infectious lymphocytosis, erythema infectiosum, and the congenital defects of infants resulting from maternal rubella. The chapter on infectious diarrheas of infancy is excellent.

This book is recommended to general practitioners, internists and pediatricians.

* * *

LANGUAGE FOR THE PRESCHOOL DEAF CHILD. By Grace Harris Lassman, Teacher of the Deaf; formerly Instructor of Speech, John Tracy Clinic, Los Angeles, Grune & Stratton, New York, 1950. $5.50.

An excellent guide for the parents of a deaf child. Such parents face a tremendous adjustment and need help which all too often the doctor does not give them. Even otologists often fail to put the problem in the proper perspective and seldom can give practical advice in the training of a deaf child. This book is arranged for the parent, with step-by-step instructions, illustrations, and examples of home training exercises and methods, but it should be read by doctors as well, for a better appreciation of the problem. The excellent bibliography of 223 titles includes almost all of the important articles with a bearing on training the deaf child.

RESEARCHES IN BINOCULAR VISION. By Kenneth N. Ogle, Ph.D., Section on Biophysical Research; Research Consultant in the Section on Ophthalmology, Mayo Foundation and Mayo Clinic, Rochester, Minn. Illustrated. W. B. Saunders Company, Philadelphia, 1950. 345 pages. $7.50.

This book is a very able discussion of the basic physiology involved in binocular visual processes by one of the foremost authorities in this field. It is well illustrated with diagrams and contains many graphical summaries of the material presented. It is not easy reading, although this is a fault of the material and not of the author. Much of the material was heretofore available only in the original works of Helmholtz, Hofmann, Bielschowsky, Hering and Tschermak. To this, Dr. Ogle has added the original work of the Dartmouth group—much of it his own.

Although the literature and texts on the anomalies of binocular vision are quite adequate from a clinical point of view, very little is written about the basic physiological principles in normal binocular vision. This book fills that need. Here, for the first time in English, between the covers of a single book, the most pertinent parts of this subject are ably presented by an authority. The text is divided into four parts: The first deals mainly with studies of the horopter and the theory of corresponding retinal points. The second part takes up fusional processes with a discussion of Panum's areas, fixation disparity, peripheral retinal fusion, and cyclofusional eye movements. The third part deals mainly with space perception, the induced effect and the changes incident to asymmetrical convergence. Part four is a complete discussion of aniseikonia.

This book will be of little aid to the clinician seeking a brief summary of how best to treat binocular anomalies. However, it will be indispensable to those interested in the physiological processes of binocular vision and is certainly the most complete and authoritative work in this field in recent years.

* * *

METHODS IN MEDICAL RESEARCH — Volume 3. Ralph W. Gerard, Editor-in-Chief. The Year Book Publishers, Inc., Chicago, 1950. 312 pages. $7.00.

California Medicine favorably reviewed the two earlier volumes in this series which is devoted to the exposition of certain methods used in medical research. The present volume appears to rival the first two in quality of its presentations, but the subjects selected seem rather more specialized and likely to interest fewer physicians. The first section deals with methods for the study of the genetics of microorganisms; it should interest microbiologists, geneticists and biochemists. The second section is concerned with the assay of neurohumors; acetylcholine and the cholinesterases receive much attention, while two chapters describe methods for the estimation of substances liberated by adrenergic nerves and of adrenaline and nor-adrenaline in tissue extracts. The third section discusses selected psychomotor measurement methods, with subdivisions on physical work and strength tests, reaction time, coordinated motor responses, manual dexterity, eye-movement coordinations, and motor tests of laboratory animals. The final section is devoted to methods for the investigation of peptide structure.

As in the earlier volumes, each chapter is written by an authority, although there are fewer comments by others than in the previous books. The methods appear to be given in adequate detail, with appropriate bibliographies, author index and subject index. The book is recommended for purchase by libraries and for perusal by medical and other scientists, a few of whom will wish to have copies in their laboratories or on their desks.

A SYNOPSIS OF OBSTETRICS AND GYNAECOLOGY. By Aleck W. Bourne, M.A., B.B., B.Ch. (Camb.), F.R.C.S. (Eng.) F.R.C.O.G., Consulting Obstetric Surgeon, Queen Charlotte's Hospital, London. Tenth Edition, Fully revised. The Williams and Wilkins Company, Baltimore, 1949. $4.50.

Bourne has written a true synopsis of obstetrics and gynecology. There are certain terms, such as auto-intoxication, pelvic presentation and epimenorrhea, which are seldom used in American obstetrical literature. The classification of toxemia is quite different from what we are accustomed. The mortality with a modified Stroganoff regimen, as reported by the London Committee, is considerably higher than reported in this country.

Under abnormal pregnancy treatment of threatened abortion, Antuitrin S in doses of 100 units daily for a week without mentioning the use of corpus luteum or stilbestrol seems inadequate. The treatment of inevitable abortion with intra-uterine glycerine or introduction of tents is seldom if ever practiced in America.

In the synopsis, gynecological anatomy is clear, concise and exceptionally well organized.

There could be no dispute with the management of fibromyomas. It is surprising that no mention is made of carcinoma in situ in the chapter on malignant disease. Particular attention should be called to the excellent outline of etiology, symptoms, and treatment of displaced uteri.

This book fulfills the purposes of the author. It reviews quite thoroughly all phases of obstetrics and gynecology, although there is very little new added to the many fine texts now available.

* * *

THE PROSTATE GLAND. By Herbert R. Kenyon, M.D., Associate Clinical Professor, Department of Urology, New York University, Bellevue Medical Center. Random House, New York, 1950. $2.95.

This little volume is an effort to explain to the lay reader in simple terms the anatomy, physiology, and diseases of the prostate gland. That most men, and even some women, are interested in the subject cannot be denied, and the author says in his foreword that he presents such information "in a form which any intelligent and interested layman can understand." In an organ the function of which is somewhat obscure even to the average medical man, there may be some doubt as to how fully many of his readers will comprehend even its simple terminology. The book is not intended for the physician, who will discover little or nothing new in its pages, but even he may find in the chapters on functional and infectious diseases information that will enable him to explain more adequately the bizarre symptoms frequently associated with these conditions.

One thing may be definitely said for the book. It is perfectly ethical and scientific, with nothing of the sensational or pornographic. It protests strongly against the nostrums and quackery too often associated with genital disease and brings these problems out into the light. Repeatedly the reader is encouraged to consult his physician, and no encouragement is given to self-diagnosis and self-treatment. Discussion of treatment is too sketchy to make the patient critical of his doctor's methods. The only possible exception is the rather full description of the various techniques of prostatic surgery, the choice of which is really a matter for mature surgical judgment.

On the whole this is a book which may, with possibly certain reservations, be recommended by the physician to the average interested patient with a high average intelligence, with the expectation that he will be able to read for himself something reasonably accurate and informative on the subject.

PROGRAM AND PRE-CONVENTION REPORTS

for the

CALIFORNIA MEDICAL ASSOCIATION

Eighteth Annual Session

Los Angeles, May 13—May 16, 1951

Biltmore Hotel

INDEX

	PAGE
Photographs of Guest Speakers	292
Photographs of Officers	294
Officers and Delegates	295
House of Delegates Agenda	297
Scientific Assemblies:	
General Meetings	299
Section on General Medicine	300
Section on General Surgery	302
Section on General Practice	304
Section on Allergy	305
Section on Anesthesiology	306
Section on Dermatology and Syphilology	307
Section on Eye, Ear, Nose and Throat	308
Section on Industrial Medicine and Surgery	309
Section on Obstetrics and Gynecology	310
Section on Pathology and Bacteriology	311
Section on Pediatrics	312
Section on Psychiatry and Neurology	313
Section on Public Health	314
Section on Radiology	315
Section on Urology	316
Scientific Exhibits	317
Medical Motion Pictures	317
Index to Speakers	320
Chart of Meeting Times and Places	323
Woman's Auxiliary to C.M.A.	324

PRE-CONVENTION REPORTS

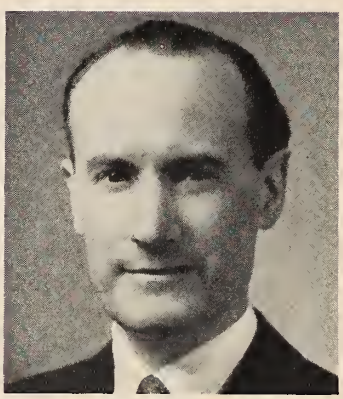
	PAGE
Reports of General Officers	334
Reports of District Councilors	344
Reports of Councilors-at-Large	346
Reports of Committees	346
Reports of County Medical Societies	357

Cancer Commission Pre-Convention Conferences, Page 322

Guest Speakers

CYRUS C. STURGIS

HERBERT C. MAIER



MACDONALD CRITCHLEY

Guest Speakers

Charles Gordon Heyd, M.D., New York, New York—President, United Medical Service, Inc.

Herbert C. Maier, M.D., New York, New York—Assistant Clinical Professor of Thoracic Surgery, Columbia University College of Physicians and Surgeons.

Cyrus C. Sturgis, M.D., Ann Arbor, Michigan—Professor of Internal Medicine, University of Michigan Medical School.

John B. Caffey, M.D., New York, New York—Professor of Clinical Pediatrics, Columbia University College of Physicians and Surgeons.

Macdonald Critchley, M.D., F.R.C.P., London—Dean, Neurological Institute.

DONALD CASS
President

H. GORDON MacLEAN
President-Elect

OFFICERS AND DELEGATES

General Officers

Donald Cass, Los Angeles, President
H. Gordon MacLean, Oakland, President-Elect
L. A. Alesen, Los Angeles, Speaker of House of Delegates
Donald A. Charnock, Los Angeles, Vice-Speaker of House of Delegates
Sidney J. Shipman, San Francisco, Chairman of Council
Albert C. Daniels, San Francisco, Secretary
Dwight L. Wilbur, San Francisco, Editor
John Hunton, San Francisco, Executive Secretary
Peart, Baraty & Hassard, Legal Counsel

Members of House of Delegates—48th Annual Session

TOTAL DELEGATES (251)

DELEGATES EX OFFICIO (21)

Donald Cass, Los Angeles.....President
H. Gordon MacLean, Oakland.....President-Elect
L. A. Alesen, Los Angeles.....Speaker of House of Delegates
Donald A. Charnock, Los Angeles.....
.....Vice-Speaker of House of Delegates
Albert C. Daniels, San Francisco.....Secretary-Treasurer
Dwight L. Wilbur, San Francisco.....Editor
John D. Ball (1953).....Councilor 1st District
Jay J. Crane (1951).....Councilor 2nd District
Harry E. Henderson (1952).....Councilor 3rd District
Neil J. Dau (1953).....Councilor 4th District
Hartzell H. Ray (1951).....Councillor 5th District
M. Laurence Montgomery (1952).....Councilor 6th District
Donald D. Lum (1953).....Councilor 7th District
Wayne E. Pollock (1951).....Councilor 8th District
John W. Green (1952).....Councilor 9th District
Francis E. West (1951).....Councilor-at-Large
Ivan C. Heron (1951).....Councilor-at-Large
Benjamin Frees (1952).....Councilor-at-Large
C. V. Thompson (1952).....Councilor-at-Large
Sidney J. Shipman (1953).....Councilor-at-Large
Wilbur Bailey (1953).....Councilor-at-Large

ELECTED DELEGATES (230)

Delegates	*Alternates*
Alameda-Contra Costa County (21)	
Dorothy M. Allen	Harry N. Akesson
Cyril J. Attwood	Philip N. Baxter
J. C. Bartlett	Melvin C. Bolender
K. W. Benson	H. C. Crockett
John Blum	R. Abbott Crum
A. Bradford Carson	Paul E. Dolan
Kaho Daily	Grant Ellis
William G. Donald	Homer Fornoff
Howard B. Flanders	C. G. Furbush
L. H. Fraser	Bernard B. Gadwood
James B. Graeser	Melvin G. Hart
Ernest W. Henderson	George S. Irvine
Arthur J. Hunnicutt	Robert S. Leet
William F. Kaiser	C. J. Lunsford
Lester Lawrence	H. P. Maloney
Joseph L. Marriott	George E. Nesche
Paul P. Michael	Thomas T. Rolleri
James Raphael	Paul H. Ryan
T. E. Reynolds	P. R. Shumaker
Douglas Toffelmier	Dan Tucker
Stanley R. Truman	E. Gale Whiting
Butte-Glenn County (2)	
Hollis L. Carey	Donald Casey
C. Meredith Guernsey	Dean Hoiland
Fresno County (5)	
C. H. Covington	Thomas A. Collins
R. W. Dahlgren	Otto Diederich
Verne Ghormley	Elmer Hof
Henry A. Randel	George W. Olson
J. E. Young	R. W. Van Wagenen
Humboldt County (2)	
Wayne P. McKee	Max J. Goodman
O. R. Myers	Harry L. Jenkins
Imperial County (1)	
Frederick Powers Heald	E. H. Benson
Inyo-Mono County (1)	
C. L. Scott	Carol C. Curtis
Kern County (3)	
Sophie L. Goldman	Robert Douds
Robert A. Patrick	Carl L. Moore
J. E. Vaughan	Raymond Owens
Kings County (1)	
William F. Chamlee	W. L. Dittes
Lassen-Plumas-Modoc County (1)	
J. W. Crever	William Quinn
Los Angeles County (91)	
E. R. V. Anderson	John D. Abbey
E. Vincent Askey	Lawrence Adams
Elmer J. Ball	Jack K. Afflerbaugh
A. Elmer Belt	Chester Alcorn
Frederic K. Bergstrom	E. W. Alsberge
John W. Beswick	Marden A. Alsberge
Robert L. Blackmun	Elmer L. Anderson
Walter H. Boyd	Ruth Appleby
Alva L. Bryant	John Martin Askey
Richard O. Bullis	Franklin I. Ball
Behle B. Burns	H. Edward Beaghler
L. C. Burwell	Reid L. Beers
Ralph V. Byrne	Terry C. Bennett
George W. Caldwell	Frederick A. Bennetts
Tenero D. Caruso	John E. Bergmann
Orville W. Cole	Brigham J. Bergstrom
Wells C. Cook	Clarence J. Berne
Clair P. Cosgrove	Peter H. Blong
Jay B. Cosgrove	Edwin F. Boyd, Sr.
William E. Costolow	Fred E. Bradford
Charles H. Cowgill	Kenneth C. Brandenburg
Lyle G. Craig	James L. Bray
Frank G. Crandall, Jr.	H. B. Breitman
Philip J. Cunnane	John W. Budd
J. M. de los Reyes	John A. Bullis
Douglas Donath	John L. Caster
Frederic Ewens	Rafe C. Chaffin
Paul D. Foster	Finis G. Cooper
Charles W. Gilfillan	Edward H. Crane, Jr.
Willard M. Gobbell	John S. Darby
Victor Goodhill	John H. Davis
William E. Graham	James C. Doyle
Richard A. Griffin	Charles V. Emerson
Robert B. Haining	William D. Evans
John B. Hamilton	Alvin G. Foord
J. Severy Hibben	Wells E. A. Forde
Lawrence M. Hill	Percy A. Foster
Eugene F. Hoffman	Garland F. Garrett
Elizabeth Mason Hohl	Frederic J. Gaspard
Robert B. Hope	William H. Grishaw
Carl R. Howson	Frederick G. Gruber
Arthur H. Hurd	Francis E. Guinney
Joel S. Kelsey, Jr.	Ernest M. Hall
Arthur A. Kirchner	Victor E. Hallstone
E. R. Lambertson	Paul M. Hamilton
William H. Leake	John Thomas Hardesty
Robert G. Lehman	M. Coleman Harris
H. Clifford Loos	Thomas M. Hearn
J. Lafe Ludwig	Wybren Hiemstra
Douglas R. MacColl	Howard P. House
Wellesley P. Magan	John Hromadka
L. Duke Mahannah	Leland G. Hunnicutt
Russell W. Mapes	Willis L. Jacobus, Jr.

Delegates	*Alternates*
John B. Marr	Eugene J. Joergenson
Paul E. McMaster	Glen Ellis Jones
William R. Molony, Sr.	Milton R. Jones
James J. Morrow	Thomas R. Kidd
Carl L. Mulfinger	Theodore S. Kimball
M. L. Newkirk	George P. Landegger
Joseph P. O'Connor	Robert W. Langley
J. Norman O'Neill	Grant H. Lanphere
Frank W. Otto	Forrest E. Leiflingwell
John R. Paxton	Thomas A. LeValley
Milton M. Portis	W. E. Macpherson
Aidan A. Raney	M. W. McDougall
James F. Regan	Edwin E. McNiel
E. T. Remmen	Robert W. Meals
Gordon L. Richardson	Arthur J. Mendenhall
Edward C. Rosenow, Jr.	John Everett Miracle
John C. Ruddock	Oliver M. Moore
Carl F. Ruschc	Clarenee H. Nelson
J. P. Sampson	Edward F. Nippert
Frank F. Schadc	Mauriee W. Nugent
Walter Scott	Ross V. Parks
J. Edward Short	Hubert J. Prichard
Ralph Varian Sloan	William F. Quinn
Ralph T. Smith	Paul A. Reichle
Elvin H. Stanton	Bruce E. Roesler
Justin J. Stein	Hollis E. Sides
Robert Leo Stern	Robert Simonds
Leonard Stovall	Gordon K. Smith
Clinton H. Thienes	William H. Snyder
Ewing L. Turner	Norman F. Sprague, Jr.
John O. Vaughn	Delbert L. Stokesbary
E. E. Wadsworth, Jr.	Packard Thurber, Jr.
Walter Wessels	Leon R. Walker
Allan B. Wilkinson	John W. Whitsett
Warren A. Wilson	Louis F. X. Wilhelm
Harold R. Witherbee	J. Walter Wilson
John H. Woodruff, Jr.	John M. Wright
Henry Marcus Young	William T. Zimmermann
Marin County (2)	
Warren Bostick	Alfred J. Schwarz
Howard Hammond	Leo L. Stanley
Mendocino-Lake County (1)	
J. E. Gardner	Thomas Hill
Merced County (1)	
George Pimentel	E. A. Jackson
Monterey County (3)	
S. Condit Glasgow	Frank Paul Cusenza
J. B. McCarthy	Howard C. Miles
James H. McPharlin	Allen Conrad Mitchell
Napa County (1)	
George I. Dawson	Walter H. Brignoli
Orange County (5)	
A. Norton Donaldson	Lester L. Blount
Charles E. Irvin	Harold F. Galbraith
G. Wendell Olson	Samuel Gendel
J. B. Price	Milton M. Maxwell
L. E. Wilson	Ralph E. White
Placer-Nevada-Sierra County (1)	
William M. Miller	Harry Mareh
Riverside County (3)	
H. M. F. Behneman	Cecil Baisinger
Franklin B. Mead	Walter J. Crawford
Frederick A. Veitch	Norman H. Mellor
Sacramento County (5)	
Orrin Cook	George Chappell
Dave F. Dozier	Herbert Jenkins
A. M. Henderson, Jr.	Dan O. Kilroy
Dudley Saeltzer	Frank Lee
Ralph Teall	Edmund E. Simpson
San Benito County (1)	
Roswell L. Hull	John J. Haruff
San Bernardino County (5)	
Meredith G. Beaver	James C. Carmack
Carl M. Hadley	John H. Coughlin
J. Needham Martin	Frank C. Melone
E. L. Tisinger	Philip M. Savage, Jr.
Arthur E. Varden	Thomas I. Zirkle
San Diego County (10)	
Douglass H. Batten	Walter F. Carpenter
H. G. Holder	James I. Knott
Roger C. Isenhour	Joseph M. Maguire
Arthur A. Marlow	J. G. Omelvena
A. E. Moore	Roy A. Ouer
Willard H. Newman	James R. Phalen
Clarence E. Rees	James W. Ravenscroft
John M. Rumsey	Frank H. Robinson
Wesley S. Smith	W. T. Soldmann
Joseph W. Telford	Calvin L. Stewart

Delegates	*Alternates*
San Francisco County (28)	
Walter Beckh	Joseph Auerbach
William L. Bender	Donald M. Camphell
Walter Birnbaum	Robert C. Combs
Lois Brock	Lawrence R. Custer
William G. Burkhard	Gerald Feigen
Donald A. Carson	Claudius Y. Gates
Garnett Cheney	Gerald Gill
Martin W. Debenham	Francis T. Hodges
Anthony B. Diepenbrock	Clyde Horner
William T. Duggan	E. Donald Lastreto
Roberto Escamilla	Charles W. Leach
Henry L. Gardner	Harold H. Lindner
L. Henry Garland	Mary E. Mathes
Frank L. A. Gerbode	James J. McGinnis
Henry Gibbons, III	Theodore Paoli
Allen T. Hinman	Agnes G. Plate
Alson R. Kilgore	August Reich
Carleton Mathewson, Jr.	Wesley E. Scott
Joseph S. McGuinness	Samuel R. Sherman
Herbert C. Moffitt, Jr.	Ahraham B. Sirbu
Mary B. Olney	Grace M. Talbott
Leon O. Parker	Emile D. Torre
Lowell A. Rantz	William W. Washburn
Francis Rochex	Forrest M. Willett
Robert A. Scarhorough	A. Justin Williams
Donald R. Smith	Henry B. Woo
Francis A. Sooy	Paul S. Wyne
Huldah E. Thelander	Reuben Zumwalt
San Joaquin County (3)	
J. Frank Doughty	Louis P. Armanino
Jack Eccleston	Frank A. McGuire
Neill Johnson	George K. Wever
San Luis Obispo County (1)	
Robert O. Pearman	Richard T. Treadwell
San Mateo County (5)	
James S. Edwards	C. D. Benninghoven
Thomas E. Farthing	D. W. Boudett
Stuart Lindsay	Bradley C. Brownson
A. G. Miller	Logan Gray
Meade Mohun	R. F. MeLaughlin
Santa Barbara County (3)	
J. Gary Campbell	Max Hammel
Lawrence M. Nelson	R. W. Lambuth
Alfred B. Wilcox	Douglas F. McDowell
Santa Clara County (7)	
C. Kelly Canelo	Deane Adams
Burt Davis	George B. Armanini
Thomas N. Foster	J. D. Lamon
Leon P. Fox	Thomas Lyon
J. B. Josephson	Ansten R. Ness
Leslie B. Magoon	J. Frederick Snyder
Paul V. Morton	Leo L. Wilson
Santa Cruz County (2)	
Luther Newhall	Ruth A. Frary
Samuel B. Randall	
Shasta County (1)	
Edward D. Ryan	George A. Martin
Siskiyou County (1)	
C. C. Dickinson	James B. McGuire
Solano County (2)	
Lionel Johnson	Bernard V. O'Donnell
F. Burton Jones	Felix J. Rossi, Jr.
Sonoma County (2)	
Donovan C. Oakleaf	William N. Makaroff
Horace F. Sharrocks	Roscoe L. Zieher
Stanislaus County (2)	
George S. Feher	Edward J. Denenholz
R. Stewart Hiatt	R. R. Radcliff
Tehama County (1)	
O. T. Wood	Harve Jourdan
Tulare County (2)	
J. H. Brady	C. H. Johnson
James E. Feldmayer	Wiley C. Zink
Ventura County (2)	
J. W. Moore	W. Cloyce Huff
A. A. Morrison	Gerald K. Ridge
Yolo County (1)	
Ray E. Nichols	Robert A. Burns
Yuba-Sutter-Colusa County (1)	
Stanley R. Parkinson	Walter J. Sehmidt

House of Delegates Agenda

1951 Annual Session

Music Room, Biltmore Hotel

Speaker, L. A. Alesen, *Los Angeles*
Vice-Speaker, Donald Charnock, *Los Angeles*
Secretary, Albert C. Daniels, *San Francisco*

FIRST MEETING

Sunday, May 13, 1951, at 1:00 p.m.

Order of Business

1. Call to order.
2. Report of Committee on Credentials, and Organization of the House of Delegates.
3. Roll call.
4. Announcement and approval of Reference Committees.
   (a) Committee on Credentials. (Delegates must register with the Committee.)
   (b) Reference Committee on the Reports of Officers, the Council and Standing and Special Committees. (Reference Committee No. 1.)
   (c) Reference Committee on Finance, to review the reports of the Secretary-Treasurer and the Executive Secretary and to study and make recommendations to the House of Delegates on the budget submitted by the Council and the amount of dues for the ensuing year. (Reference Committee No. 2.)
   (d) Reference Committee on Resolutions, Amendments to the Constitution and By-laws and New and Miscellaneous Business. (Reference Committee No. 3.)
   (e) Reference Committee on Executive Session, to consider business brought before the House of Delegates in Executive Session. (Reference Committee No. 4.)
5. Address by President—Donald Cass.
   Presentation of 50-Year Awards.
6. Miscellaneous announcements by the Speaker. (Stenographic service, to secure triplicate copies of resolutions, etc.)
7. Report of the Council—Sidney J. Shipman, chairman.
8. Report of the Trustees of the California Medical Association—Donald Cass, president.
9. Report of the Auditing Committee — H. Gordon MacLean, chairman.
10. Report of the Secretary—Albert C. Daniels.
11. Report of the Executive Secretary—John Hunton.
12. Report of the Editor—Dwight L. Wilbur.
13. Reports of District Councilors.
14. Reports of Councilors-at-Large.
15. Report of Legal Counsel—Peart, Baraty & Hassard.
16. Reports of Standing and Special Committees:
   A. Standing Committees:
   (a) Executive Committee—Donald D. Lum.
   (b) Committee on Associated Societies and Technical Groups—Robert A. Scarborough.
   (c) Committee on Audits—Donald D. Lum.
   (d) Committee on Health and Public Instruction—Orrin Cook.
   (e) Committee on History and Obituaries—Edmund T. Remmen.
   (f) Committee on Hospitals, Dispensaries, and Clinics—John B. Hamilton.
   (g) Committee on Industrial Practice—Raymond M. Wallerius.
   (h) Committee on Medical Defense—H. Clifford Loos.
   (i) Committee on Medical Economics—H. Gordon MacLean.
   (j) Committee on Medical Education and Medical Institutions—L. R. Chandler.
   (k) Committee on Organization and Membership—Carl L. Mulfinger.
   (l) Committee on Postgraduate Activities—John C. Ruddock.
   (m) Committee on Publications—George Dawson.
   (n) Committee on Public Policy and Legislation—Dwight H. Murray.
   (o) Committee on Scientific Work (Annual Session)—Albert C. Daniels.
   (p) Cancer Commission—Lyell C. Kinney.
   (q) Editorial Board—Dwight L. Wilbur.
   (r) Public Relations—John Hunton.
   B. Special Committees:
   (a) Delegates to the American Medical Association—E. Vincent Askey.
   (b) Physicians' Benevolence Committee — Axcel E. Anderson.
   (c) Advisory Planning Commission—John Hunton.
   (d) Blood Bank Commission—John Upton.
   (e) C.P.S. Liaison Committee—Donald Cass.
   (f) Committee on C.P.S. Administrative Changes—Orrin Cook.
   (g) Committee on Industrial Accident Commission Fee Schedule—Francis J. Cox.
   (h) Committee on Industrial Health — Christopher Leggo.
   (i) Committee on Rural Medical Service—Carroll B. Andrews.
18. Old and unfinished Business.
   (a) Constitution.
   (b) Constitutional Amendments.
19. New Business.

SECOND MEETING

Tuesday, May 15, at 1:00 p.m.

Order of Business

1. Call to order.
2. Supplemental report of Credentials Committee.
3. Roll call.
4. Secretary's announcement of Council's selection of place for the 1952 annual session.

5. Election of Officers:
   (a) President-Elect.
   (b) Speaker.
   (c) Vice-Speaker.
   (d) District Councilors (three-year term):*
      1. Second District—Jay J. Crane, Los Angeles (term expiring).
         Second District—Los Angeles County.
      2. Fifth District—Hartzell H. Ray, San Mateo (term expiring).
         Fifth District—Monterey, San Benito, San Mateo, Santa Clara and Santa Cruz counties.
      3. Eighth District—Wayne E. Pollock, Sacramento (term expiring).
         Eighth District—Alpine, Amador, Butte, Colusa, Eldorado, Glenn, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Sutter, Tehama, Yolo and Yuba counties.

   (e) Councilors-at-Large (three-year terms):
   Francis E. West, San Diego (term expiring).
   Ivan C. Heron, San Francisco (term expiring).

   (f) Delegates to American Medical Association:
   Delegates and Alternates to the American Medical Association are elected for terms of two calendar years. The Delegates and Alternates to be elected at this meeting will serve for two calendar years ending December 31, 1953.

   Incumbents:
   (a) Robertson Ward (term expiring).
   (b) Sam J. McClendon (term expiring).
   (c) Eugene F. Hoffman (term expiring).
   (d) John W. Green (term expiring).
   (e) Lewis A. Alesen (term expiring).

   (g) Alternates to American Medical Association:
   Incumbents:
   (a) Anthony B. Diepenbrock (alternate to Robertson Ward).
   (b) Walter Cherry (alternate to Sam J. McClendon).
   (c) Frederic S. Ewens (alternate to Eugene F. Hoffman).
   (d) Frank A. MacDonald (alternate to John W. Green).
   (e) John Ball (alternate to Lewis A. Alesen).

6. Announcement by Secretary.
   Council's nominations of members of Standing Committees. (For approval by the House of Delegates.)
7. Reports of Reference Committees:
   (a) Report of Reference Committee No. 1 on Reports of Officers, the Council, and Standing and Special Committees.
   (b) Report of Reference Committee No. 2 on Reports of the Secretary-Treasurer and the Executive Secretary, on budget and dues.
   (c) Report of Reference Committee No. 3 on Resolutions, Amendments to the Constitution and By-Laws and New and Miscellaneous Business.
   (d) Report of Reference Committee No. 4 on business brought before the House of Delegates in Executive Session.
8. Unfinished Business.
9. New Business.
10. Presentation of Officers:
    President
    President-Elect
    Speaker
    Vice-Speaker
11. Presentation of Certificate to Retiring President—Donald Cass.
12. Approval of Minutes. (Committee to edit.)
13. Adjournment.

LEWIS A. ALESEN, *Speaker*
ALBERT C. DANIELS, *Secretary*

* * * * * * *

Meeting of C.P.S. Administrative Members
May 13, 1951

AGENDA

1. Roll call.
2. Report of the President: Dr. J. Frank Doughty.
3. Question-and-Answer Period.
4. Report by Chairman of Fee Schedule Committee: Dr. R. G. Frey.
5. Announcement of Nominating Committee.
6. Announcement of Resolutions Committee.
7. Introduction of Resolutions.
8. Recess (48 hours).

SECOND MEETING

1. Roll call
2. Consideration of report of Nominating Committee.
3. Consideration of resolutions and report of Resolution Committee.
4. New business.

**Procedure of nomination of District Councilors is outlined in paragraph 3 of Article VII, Section 1, of C.M.A. constitution, adopted on May 8, 1940:*
The nine district Councilors shall be elected as follows: Prior to the time set for election of district Councilors, the delegates of each Councilor district for which a councilorship is about to become vacant, shall submit in writing to the Secretary-Treasurer the names of one or more nominees to fill the said vacancy.
The Secretary-Treasurer shall transmit the names of such nominee or nominees so submitted to him to the House of Delegates on or before the time set for the election.
A vote shall be taken by the House of Delegates upon the nominee or nominees so submitted and, in the event that only one nominee has been submitted, the House of Delegates may, by a majority vote, either elect or refuse to elect said nominee.
If the House of Delegates shall reject the sole nominee of the delegates from the councilorship district concerned, then said delegates must immediately thereafter submit an additional nominee or nominees and the House shall proceed to vote thereon; if there is but one nominee, the House may elect or reject.
If, after such time as the Speaker may allow, delegates within such councilor district fail to submit an additional nominee or nominees, the House of Delegates may then proceed to make nominations from the floor of the House and a vote shall then be taken by the House of Delegates to determine who shall be elected to the vacant councilorship.
All nominees for district councilorships must be members in good standing, residing within the district in which the vacancy exists.

SCIENTIFIC SESSIONS

General Meetings

FIRST GENERAL MEETING

SUNDAY, MAY 13
10:00—Biltmore Theatre

Chairman: Donald Cass, M.D., Los Angeles

10:00—**Address of Welcome**—Richard O. Bullis, M.D., President, Los Angeles County Medical Association.

10:05—**Greetings from the Woman's Auxiliary**—Mrs. William R. Molony, Jr., President, Woman's Auxiliary to the California Medical Association.

10:10—**Address of the President**—Donald Cass, M.D., Los Angeles.

10:40—**The Non-Group Subscriber: A Blue Shield Problem**—Charles Gordon Heyd, M.D., New York, New York, by invitation.

11:10—**The Treatment of the Anemias** — Cyrus C. Sturgis, M.D., Ann Arbor, Michigan, by invitation.

11:35—**Some Recent Advances in Thoracic Surgery**—Herbert C. Maier, M.D., New York, New York, by invitation.

SECOND GENERAL MEETING

MONDAY, MAY 14
2:00—Biltmore Theatre

Chairmen: DeWitt K. Burnham, M.D., San Francisco; Frank Gerbode, San Francisco

2:00—**Some Recently Recognized Bone Lesions in Infants and Children**—John B. Caffey, M.D., New York, New York, by invitation.

2:30—**Observations on Pain** — Macdonald Critchley, M.D., F.R.C.P., London, by invitation.

3:00—**Question and Answer Period.**

Clinical-Pathological Conference

3:15—Case No. 1 — Pathologist H. Russell Fisher, M.D., Los Angeles. Clinician Cyrus C. Sturgis, M.D., Ann Arbor, Michigan, by invitation.

4:00—Case No. 2 — Pathologist Leo Kaplan, M.D., Los Angeles, by invitation. Surgeon Herbert C. Maier, M.D., New York, New York, by invitation.

Section Meetings

GENERAL MEDICINE

DeWitt K. Burnham, M.D., San Francisco, *Chairman*
Edgar Frank Mauer, M.D., Los Angeles, *Secretary*
James Malcolm Stratton, M.D., Oakland, *Assistant Secretary*

DEWITT K. BURNHAM
Chairman

EDGAR FRANK MAUER
Secretary

MONDAY, MAY 14

9:00—Biltmore Theatre

Joint Meeting with Section on General Surgery

Symposium

Diseases of the Lung

9:00—**Diagnosis and Treatment of Carcinoma of the Lung:**
Primary Carcinoma of the Lung—Herbert C. Maier, M.D., New York, by invitation.
Diagnostic Problems of Lung Cancer—Seymour M. Farber, M.D., San Francisco.

9:30—**Management of Pulmonary Suppuration:**
Antibiotic Therapy of Pulmonary Suppuration—William Hewitt, M.D., Los Angeles, by invitation.
The Management of Lung Abscess—Francis X. Byron, M.D., Los Angeles, by invitation.

10:00—**Pulmonary Tuberculosis:**
Selection of Patients with Tuberculosis for Pulmonary Surgery—Reginald Smart, M.D., Los Angeles.
Pulmonary Resection in Tuberculosis—David J. Dugan, M.D., Oakland.

10:30—**Coccidioidomycosis:**
The Diagnosis of Pulmonary Coccidioidal Infection—Charles E. Smith, M.D., Berkeley.
Surgical Treatment of Pulmonary Coccidioidal Infection—Bert H. Cotton, Beverly Hills.

11:00—**Panel Discussion**—Members are invited to submit questions in writing. Herbert C. Maier, M.D., New York, by invitation, Moderator; Frank Gerbode, M.D., San Francisco, Surgery; H. Corwin Hinshaw, M.D., San Francisco, Medicine; Marcy L. Sussman, M.D., Phoenix, by invitation, Radiology; Charles E. Smith, M.D., Berkeley, Medicine and Public Health.

TUESDAY, MAY 15

9:30—Burdette Hall, Baptist Church, Philharmonic Building

Joint Meeting with Section on General Practice

Symposium

Cortisone and ACTH

9:30—**Experiences with Oral Cortisone**—Ephraim P. Engleman, M.D., San Francisco.

9:50—**ACTH and Cortisone: Experience with Private Patients**—Gordon R. Lamb, M.D., Laurance Kinsell, M.D., and Fletcher B. Taylor, M.D., Oakland.

10:10—**Experience with Cortisone and ACTH in a Private Clinic**—Marcus A. Krupp, M.D.; Milton Saier, M.D.; Frances Keddie, M.D.; Ralph Tanner, M.D., and A. M. Snell, M.D., Palo Alto.

10:30—**The Results of Prolonged Use of Cortisone in Rheumatoid Arthritis and Other Rheumatic Diseases**—Nathan E. Headley, M.D., Los Angeles.

10:50—**Panel Discussion—Practical Application of ACTH and Cortisone:** Edwin L. Bruck, M.D., San Francisco, Moderator; Paul Starr, M.D., Pasadena; Laurance W. Kinsell, M.D., Oakland; Edward Boland, M.D., Los Angeles; John S. Lawrence, M.D., Los Angeles, and Marcus A. Krupp, M.D., Palo Alto.

* * *

11:40—**Some Recent Advances in Our Methods of Treating Thyroid Disorders**—Cyrus C. Sturgis, M.D., Ann Arbor, Michigan, by invitation.

WEDNESDAY, MAY 16

9:30—Burdette Hall, Baptist Church, Philharmonic Building

9:30—End Results for Gastric Cancer in Los Angeles—Lewis E. Guiss, M.D., Los Angeles.

10:00—The Clinical Importance of Generalized Sarcoidosis—Walter Beckh, M.D., and William F. Weeden, M.D., San Francisco.

10:15—Subacute Thyroiditis—John O. Westwater, M.D., Los Angeles.

10:30—Business Meeting and Election of Officers.

10:40—The Diagnosis of the Hemolytic Anemias—Edward R. Evans, M.D., Pasadena.

10:55—The Management of Purpura Hemorrhagica, Based on a Review of 48 Cases at a Private Hospital—Brigham Bergstrom, M.D., Beverly Hills.

11:10—Protean Manifestations of Infectious Mononucleosis—Herbert C. Moffitt, Jr., M.D., San Francisco.

11:25—The Nature and Treatment of Leukemia and Allied Conditions—Cyrus C. Sturgis, M.D., Ann Arbor, Michigan, by invitation.

11:55—Annual Meeting—California Society of Internal Medicine.

WEDNESDAY, MAY 16

2:00—Burdette Hall, Baptist Church, Philharmonic Building

2:00—Chairman's Address: N.P.H. Insulin—DeWitt Burnham, M.D., San Francisco.

2:15—Intravenous Use of Pituitrin in the Control of Massive Pulmonary Hemorrhage—Harold G. Trimble, M.D., and James Robert Wood, M.D., Oakland.

2:25—Vitamin U Therapy of Peptic Ulcer—Garnett Cheney, M.D., San Francisco.

2:45—Less Commonly Recognized Clinical Features of Amebiasis—Mervin J. Goldman, M.D., Oakland.

3:00—Diphtheria: The Present Day Problem—Henry Brainerd, M.D., and Henry Bruyn, M.D., San Francisco.

3:20—Western Equine and St. Louis Encephalitis in California—Edwin H. Lennette, M.D., Ph.D., Berkeley, and William Allen Longshore, M.D., Berkeley, by invitation.

3:40—Needle Biopsy of the Liver—William E. Molle, M.D., Los Angeles, and Leo Kaplan, M.D., Los Angeles, by invitation.

3:55—Volvulus of the Stomach—Walter P. Martin, M.D., and Tom A. Kendig, M.D., Long Beach.

4:05—The Use of Banthine in the Treatment of Digestive Disturbances—Leonard M. Asher, M.D., Beverly Hills.

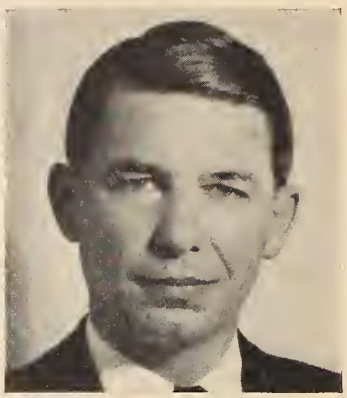
CALIFORNIA HEART ASSOCIATION

Annual Scientific Meeting

The Annual Scientific Meeting of the California Heart Association will be held Wednesday, May 16, 1:30 p.m. to 5:00 p.m., in the Music Room of the Biltmore Hotel.

GENERAL SURGERY

Frank Gerbode, M.D., San Francisco, *Chairman*
William P. Longmire, Jr., M.D., Los Angeles, *Secretary*
H. J. McCorkle, M.D., San Francisco, *Assistant Secretary*



FRANK GERBODE
Chairman

WILLIAM P. LONGMIRE, JR.
Secretary

MONDAY, MAY 14

9:00—Biltmore Theatre

Joint Meeting with Section on General Medicine

For Program, see Section on General Medicine

TUESDAY, MAY 15

9:30—Auditorium, Southern California Edison Building

9:30—**Chairman's Address: Surgery of Acquired Heart Disease**—Frank Gerbode, M.D., San Francisco.

Discussion.

9:50—**Treatment of Tumors of the Esophagus**—Herbert C. Maier, M.D., New York, by invitation.

Discussion.

10:10—**Planned Resection of the Regional Lymph Nodes in Pneumonectomy for Bronchiogenic Carcinoma**—Joseph Weinberg, M.D., Long Beach.

Discussion.

10:30—**The Surgical Treatment of Mitral Stenosis**—William H. Muller, Jr., Los Angeles, by invitation.

Discussion.

10:50—**Newer Concepts of Surgical Anatomy of the Lung**—H. H. Lindner, M.D., and John B. deC. Saunders, M.D., San Francisco.

Discussion.

11:10—**The Conservation of Tissue and Function in Pulmonary Resections by the Correct Use of Segmental Resection: Technique of the Anatomical Separation of Segments**—Beatty H. Ramsay, M.D., Los Angeles, by invitation.

Discussion.

11:30—**Treatment of Arterial Hypertension by Subtotal Thoracolumbar Sympathectomy**—Theodore B. Massell, M.D., Los Angeles.

Discussion.

11:50—**Review of Korean Thoracic Injuries at the U. S. Naval Hospital, Oakland**—Captain Everett H. Dickinson (MC), USN, by invitation; Commander Emanuel Rollins (MC), USN, by invitation, and Gerald L. Crenshaw, M.D., Oakland.

Discussion.

WEDNESDAY, MAY 16

9:30—Auditorium, Southern California Edison Building

9:30—**Observations on Aortic Embolism with Report of 13 Additional Cases**—Allan B. Wilkinson, M.D., Glendale.

Discussion.

9:50—**Struma Lymphomatosa**—Charles T. Sturgeon, M.D., Los Angeles, and Kenneth W. Blake, M.D., Beverly Hills.

Discussion.

10:10—**Metastatic Carcinoma of the Thyroid as an Initial Manifestation of the Disease**—O. G. Davies, M.D.; Stuart Lindsay, M.D., and H. H. Searls, M.D., San Francisco.

Discussion.

10:30—**The Surgical Treatment of Massive Hemorrhage from Peptic Ulcer**—James M. Marshall, M.D., Pasadena.

Discussion.

10:50—**Resection of the Axillary Vein During Radical Mastectomy**—John M. Kenney, M.D., and R. L. Zieber, M.D., Santa Rosa.

Discussion.

11:10—**Duodenal Fistulas Following Gastrectomy**—R. Bruce Henley, M.D., Oakland.

Discussion.

11:30—**A Study of Small Bowel Tumors (Special Emphasis on Clinical Aspects)**—E. J. Joergenson, M.D., Glendale, and Laurel H. Weibel, M.D., Los Angeles, by invitation.

Discussion.

11:50—**Non-Rotation of the Midgut**—J. Norton Nichols, M.D., Los Angeles.

Discussion.

12:10—**Carcinoma of the Ampulla of Vater—Three 10-Year Cases**—Louis C. Bennett, Los Angeles.

Discussion.

GENERAL PRACTICE

James E. Reeves, M.D., San Diego, *Chairman*
John B. Long, M.D., Sacramento, *Secretary*
Merlin L. Newkirk, M.D., South Gate, *Assistant Secretary*

JAMES E. REEVES
Chairman

JOHN B. LONG
Secretary

MONDAY, MAY 14

9:30—Music Room, Biltmore Hotel

9:30—**Prolonged Labor**—Philip H. Arnot, M.D., San Francisco.

9:55—**The Rh Factor in Rural Practice**—James L. Dennis, M.D., Merced.

Discussion by pediatrician—Henry Bruyn, M.D., San Francisco.

Discussion by obstetrician — Philip Arnot, M.D., San Francisco.

10:30—**Treatment of Closed Head Injuries**—Lester B. Lawrence, M.D., Oakland.

10:55—**Anal Infections Encountered in General Practice**—Malcolm R. Hill, M.D., Los Angeles.

11:20—**Chairman's Address: The General Practitioner and the Coroner's Office**—James E. Reeves, M.D., San Diego.

11:40—**Business Meeting and Election of Officers.**

TUESDAY, MAY 15

9:30—Burdette Hall, Baptist Church, Philharmonic Building

Joint Meeting with Section on General Medicine

For Program, see Section on General Medicine

WEDNESDAY, MAY 16

9:30—Music Room, Biltmore Hotel

Joint Meeting with Section on Urology

9:30—**Enuresis**—Donald A. Charnock, M.D., Los Angeles.

Discussion by pediatrician—Harry Dietrich, M.D., Los Angeles.

10:00—**Common Diseases of the Female Urethra**—Carl E. Burkland, M.D., Sacramento.

Discussion by Ector LeDuc, M.D., San Diego.

10:30—**Mental Fixations and Phobias Affecting the Urogenital System**—Alfred Auerback, M.D., San Francisco.

Discussion by Donald R. Smith, M.D., San Francisco.

11:00—**Coordinating Patient Care between Urologist and General Practitioner**—Bernard B. Gadwood, M.D., Richmond.

Discussion by R. T. Bergman, M.D., Los Angeles.

11:30—**Modern Use of Urinary Antiseptics**—Frank Hinman, Jr., M.D., San Francisco.

Discussion by A. J. Scholl, M.D., Los Angeles.

ALLERGY

Frank G. Crandall, Jr., M.D., Los Angeles, *Chairman*
Samuel H. Hurwitz, M.D., San Francisco, *Vice-Chairman*
M. Coleman Harris, M.D., Beverly Hills, *Secretary*

FRANK G. CRANDALL, JR.
Chairman

M. COLEMAN HARRIS
Secretary

WEDNESDAY, MAY 16

9:30—Conference Room 4, Biltmore Hotel

9:30—**Chairman's Address: Public Relations in the Practice of Allergy**—Frank G. Crandall, Jr., M.D., Los Angeles.

10:00—**Pulmonary Emphysema and its Relation to Respiratory Allergy** — Marvin Harris, M.D., Los Angeles.

Discussion by Reginald Smart, M.D., Los Angeles.

10:30—**Evaluation of a New Method of Dust Control** —M. Coleman Harris, M.D., and Norman Shure, M.D., Beverly Hills.

Discussion by Samuel H. Hurwitz, M.D., San Francisco.

11:00—**Practical Aspects of Allergy in Ophthalmology**—Maurice Nugent, M.D., Los Angeles.

Discussion by A. Ray Irvine, M.D., Los Angeles.

11:30—**Asthmatic Bronchitis**—Dar D. Stofer, M.D., Monterey.

Discussion by George Piness, M.D., Los Angeles.

WEDNESDAY, MAY 16

2:00—Conference Room 4, Biltmore Hotel

2:00—**Allergy, Atopy and Anergy: A Nosologic Quandary** — Hyman Miller, M.D., Beverly Hills.

Discussion by William Hewitt, M.D., Los Angeles.

2:30—**Asthma and Cardiac Dyspnea: A Differential Diagnosis**—Frank Perlman, M.D., Portland, Oregon, by invitation.

3:30—**Basic Tissue Reactions in Allergic Injury**—James F. Rinehart, M.D., San Francisco.

Discussion by M. Coleman Harris, M.D., Beverly Hills.

4:00—**Oral and Intravenous Use of Pronestyl in Allergic Disease** — Henry T. Friedman, M.D., Beverly Hills.

Discussion by Jerome Sievers, M.D., Los Angeles.

4:30—**New Modified Epinephrine Solutions as Therapeutic Aids**—Roy A. Ouer, M.D., San Diego.

Discussion by Lyle Bacon, M.D., Los Angeles.

ANESTHESIOLOGY

Douglass H. Batten, M.D., San Diego, *Chairman*
Fenimore E. Davis, M.D., Oakland, *Secretary*
Nevin H. Rupp, M.D., Los Angeles, *Assistant Secretary*

DOUGLASS H. BATTEN
Chairman

FENIMORE E. DAVIS
Secretary

MONDAY, MAY 14

9:30—Conference Room 5, Biltmore Hotel

9:30—**Intravenous Procaine, Present Concepts and Techniques**—Robert W. Churchill, M.D., San Francisco.
Discussion.

10:00—**Resuscitation of the Newborn**—Lieutenant Frank M. Thornberg (MC), USN, Oakland.
Discussion.

10:30—**Oxygen Therapy**—John B. Dillon, M.D., Los Angeles.
Discussion.

11:00—**Pre- and Postoperative Medication in Relation to Anesthesia**—D. A. Roman, M.D., and Marvin Darsie, M.D., Los Angeles.
Discussion.

MONDAY, MAY 14

2:00—Conference Room 5, Biltmore Hotel

2:00—**Procedures in Cardiac Arrest**—William H. Cassels, M.D., San Mateo.
Discussion.

2:30—**Present Status of Endotracheal Anesthesia in Children**—Woodrow Lomas, M.D., San Francisco.
Discussion.

3:00—**Do's and Don'ts of Spinal Anesthesia**—Bruce M. Anderson, M.D., Oakland.
Discussion.

3:30—**New Drugs in Anesthesia**—Richard W. Poytress, M.D., San Jose.
Discussion.

DERMATOLOGY AND SYPHILOLOGY

Arne E. Ingels, M.D., San Francisco, *Chairman*
Richard O. Pfaff, M.D., San Jose, *Secretary*
Kenneth L. Stout, M.D., Beverly Hills, *Assistant Secretary*

ARNE E. INGELS
Chairman

RICHARD O. PFAFF
Secretary

MONDAY, MAY 14

9:30—Burdette Hall, Baptist Church, Philharmonic Building

9:30—**The Laboratory in Relation to ACTH and Cortisone Therapy**—Robert L. Dennis, M.D., San Jose.

9:50—**Evaluation of ACTH in Diseases of Skin**—Eugene Farber, M.D., San Francisco.

10:10—**Present Status of Cortisone in Dermatology**—Ben Newman, M.D., Los Angeles.

Discussion of Preceding Papers.

10:40—**Efficiency of Bismuth Lanolin Putty in Shielding of Skin Against Roentgen Radiation, with Additional Suggestions in Technique**—J. Walter Wilson, M.D., Los Angeles.

Discussion.

11:10—**Riboflavin in Psoriasis—A New Concept in Treatment**—Merlin T-R. Maynard, M.D., San Jose.

Discussion.

11:40—**Estrogen Therapy in Acne—Contraindications**—Sheldon A. Payne, M.D., Los Angeles.

Discussion.

MONDAY, MAY 14

2:00—Burdette Hall, Baptist Church, Philharmonic Building

2:00—**Chairman's Address: Present Status of Treatment of Tuberculosis of Skin**—Arne Ingels, M.D., San Francisco.

2:20—**Treatment of Impetigo with Sulfonamide Urea Powder**—Rees B. Rees, Jr., M.D., Edwin M. Hamlin, M.D., San Francisco, and James P. McGinley, M.D., San Francisco, by invitation.

Discussion.

2:50—**Trichophyton Tonsurans (Crateriforme) Infection of the Scalp** — Harold Price, M.D., North Hollywood.

Discussion.

3:20—**Dissemination of Chronic Discoid Lupus Erythematosus**—Edward J. Ringrose, M.D., Berkeley.

3:50—**Skin Disease in Tattoos**—Glenn Lubeck, M.D., Oakland, by invitation.

Discussion.

4:20—**Business Meeting and Election of Officers.**

EYE, EAR, NOSE AND THROAT

George F. Keiper, Jr., M.D., Visalia, *Chairman*
Maurice W. Nugent, M.D., Los Angeles, *Secretary*
Robert C. McNaught, M.D., San Francisco, *Assistant Secretary*

GEORGE F. KEIPER, JR.
Chairman

MAURICE W. NUGENT
Secretary

MONDAY, MAY 14

9:30—Conference Room 8, Biltmore Hotel

9:30—**The Problem of the Deformities of the Nasal Septum in Relation to Rhinoplastic Surgery**—Manuel R. Wexler, M.D., Los Angeles.

Discussion by Ernest R. V. Anderson, M.D., Los Angeles.

10:00—**Proper Use of Antibiotics in the Treatment of Acute Otitis Media**—Miriam H. Rutherford, M.D., Oakland.

Discussion by Victor Goodhill, M.D., Los Angeles.

10:30—**Scleroma** — Edward H. Crane, M.D., Inglewood.

Discussion by Russell Fisher, M.D., Los Angeles.

11:00—**Surgical Approach to Tumors of the Nasopharynx**—Francis Sooy, M.D., San Francisco.

Discussion by Samuel Perzik, M.D., Beverly Hills.

11:30—**A Plastic Procedure on the Fossa at the Time of Tonsillectomy** — Emery Leivers, M.D., Woodland.

Discussion by Leland Hunnicutt, M.D., Pasadena.

MONDAY, MAY 14

2:00—Conference Room 8, Biltmore Hotel

2:00—**Intranasal Diathermy Operation of the Tear Sac**—Paul H. Reed, M.D., Los Angeles.

Discussion by Eugene Christensen, M.D., Los Angeles.

2:30—**Hyperphoria Induced by Trial Lenses**—Robert J. Schillinger, M.D., Los Angeles.

Discussion by Sidney Brownsberger, M.D., Los Angeles.

3:00—**Use of Free Grafts in Correction of Recurrent Pterygia, Pseudopterygia and Symblepharon** —Deane Hartman, M.D., Los Angeles.

Discussion by Orwyn Ellis, M.D., Los Angeles.

3:30—**Intermission.**

3:40—**Business Meeting.**

3:50—**Sturge-Weber Syndrome**—Levon K. Garron, M.D., Oakland.

Discussion by A. Ray Irvine, Jr., M.D., Beverly Hills.

4:20—**Precancerous Melanosis**—Crowell Beard, M.D., San Jose, and Michael J. Hogan, M.D., San Francisco.

Discussion by Phillips Thygeson, M.D., San Jose.

INDUSTRIAL MEDICINE AND SURGERY

Robert K. Gustafson, M.D., Pasadena, *Chairman*
Herbert C. Sanderson, M.D., Sacramento, *Secretary*
Orris R. Myers, M.D., Eureka, *Assistant Secretary*

ROBERT K. GUSTAFSON
Chairman

HERBERT C. SANDERSON
Secretary

MONDAY, MAY 14

9:30—Conference Room 7, Biltmore Hotel

9:30—**Results of Treatment of Intervertebral Disc Protrusion with Special Reference to the Anterior Extraperitoneal Route**—Paul H. Harmon, M.D., Oakland.

Discussion by Paul E. McMaster, M.D., Los Angeles.

10:00—**Hand Dermatitis in Industry** — Norman Epstein, M.D., and James R. Allen, M.D., San Francisco.

Discussion by William Harding, M.D., Sacramento.

10:30—**Evaluation of Industrial Disability**—Packard Thurber, M.D., Los Angeles, and Subcommittee for the "Standardization of Joint Measurements in Industrial Injury Cases," of the California Medical Association, Packard Thurber, M.D., Chairman.

Discussion by Fred P. Schafer, M.D., R. W. Stellar, M.D., and by invitation, Mr. John J. Batistich, Los Angeles.

11:00—**Attitudes Toward the Doubtful Compensation Claim**—Christopher Leggo, M.D., Crockett.

Discussion by R. T. Johnstone, M.D., Los Angeles.

11:30—**Elbow Injuries**—Melvin T. Hurley, M.D., Richmond.

Discussion by John Wright, M.D., Pasadena, and Francis J. Cox, M.D., San Francisco.

12:00—**Business Meeting—Election of Officers.**

MONDAY, MAY 14

2:00—Conference Room 9, Biltmore Hotel

2:00—**Bone Repair in Rats with Multiple Fractures** —Marshall R. Urist, M.D., Los Angeles.

Discussion by Vernon Luck, M.D., Los Angeles.

2:30—**Comminuted Fractures of the Acetabulum with Central Dislocation of the Femur** — Arthur Holstein, M.D., and Gwilym B. Lewis, M.D., Berkeley.

Discussion by F. Harold Downing, M.D., Fresno.

3:00—**Malingering After Industrial Injuries**—Walter Z. Baro, M.D., Los Angeles.

Discussion by DeWard Jones, M.D., Los Angeles.

3:30—**My Aching Back** — Rodney F. Atsatt, M.D., Santa Barbara.

Discussion by Merrill Mensor, M.D., San Francisco.

4:00—**Anoxia in the Acute Head Injury** — John E. Adams, M.D., San Francisco.

Discussion by Howard Naffziger, M.D., San Francisco, and A. A. Raney, M.D., Los Angeles.

OBSTETRICS AND GYNECOLOGY

Leon Krohn, M.D., Los Angeles, *Chairman*
Woodburn K. Lamb, M.D., Berkeley, *Vice-Chairman*
Hervey K. Graham, M.D., San Diego, *Secretary*

LEON KROHN
Chairman

HERVEY K. GRAHAM
Secretary

TUESDAY, MAY 15

9:30—Chapel, Baptist Church, Philharmonic Building

9:30—**Report on Therapeutic Abortions in California** Keith P. Russell, M.D., Chairman, Committee on the Abortion Problem in California, Los Angeles.

Discussion by Purvis L. Martin, M.D., San Diego, and Donald W. deCarle, M.D., San Francisco.

10:00—**Coordinating the Services of the Obstetrician and General Practitioner in an Obstetrical Department**—Blake H. Watson, M.D., Los Angeles.

Discussion by Rodney H. Snow, M.D., Santa Monica, and Robert H. Fagan, M.D., Beverly Hills.

10:30—**Emergencies in Obstetrics and Gynecology**—Charles M. Malone, M.D., Los Angeles.

Discussion by Hobart Kelly, M.D., Riverside, and Ralph H. Walker, M.D., Los Angeles.

11:00—**Primary Postpartum Hemorrhage**—George F. Melody, M.D., San Francisco.

Discussion by Donald W. deCarle, M.D., San Francisco, and Donald G. Tollefson, M.D., Los Angeles.

WEDNESDAY, MAY 16

9:30—Chapel, Baptist Church, Philharmonic Building

9:30—**Business Meeting.**

9:50—**Culdoscopy**—Stanley T. Lee, M.D., Fresno.

Discussion by William B. McGee, M.D., San Diego, and Paula Horn, M.D., Los Angeles.

10:20—**Chairman's Address**—Leon Krohn, M.D., Los Angeles.

10:40—**Intracavitary Injection of Radioactive Isotopes for Inoperable Malignancy**—Henry L. Jaffe, M.D., Los Angeles.

Discussion by Samuel Perzik, M.D., Beverly Hills.

11:10—**The Management of Carcinoma of the Uterine Cervix**—Ian Macdonald, M.D., Los Angeles.

Discussion by Bernard J. Hanley, M.D., Los Angeles, and Erle Henriksen, M.D., Los Angeles.

PATHOLOGY AND BACTERIOLOGY

Warren Bostick, M.D., San Francisco, *Chairman*
Leon John Tragerman, M.D., Los Angeles, *Secretary*
Charles M. Blumenfeld, M.D., Sacramento, *Assistant Secretary*

WARREN BOSTICK
Chairman

LEON JOHN TRAGERMAN
Secretary

MONDAY, MAY 14

9:30—Chapel, Baptist Church, Philharmonic Building

9:30—**Pulmonary Endarteritis Associated with Cor Pulmonale, Simulating Congenital Heart Disease**—J. D. Kirshbaum, M.D., San Bernardino.
Discussion.

9:50—**Tumors in Childhood, Statistical Review**—Ralph E. Knutti, M.D., Los Angeles.
Discussion.

10:30—**Streptomycin Sensitivity of Tubercle Bacilli Obtained from Surgically Resected Lungs**—Perry J. Melnick, M.D., and Alfred S. Goldman, M.D., Los Angeles, and Eric Stern, M.D., Duarte, by invitation.
Discussion.

11:00—**The Rare Tumors of the Testis**—Nathan B. Friedman, M.D., Los Angeles.
Discussion by Harry Goldblatt, M.D., and Alvin G. Foord, M.D., Pasadena.

11:30—**Exfoliative Cytology of Carcinoma, Los Angeles County Hospital**—H. Schuyler Aijian, M.D., by invitation, and Bernadette Browell, by invitation, Los Angeles.
Discussion.

MONDAY, MAY 14

2:00—Chapel, Baptist Church, Philharmonic Building

2:00—**Primary Systemic Amyloidosis With Predominant Pulmonary Involvement**—Meyer Zeiler, M.D., Los Angeles.
Discussion.

2:20—**Chairman's Address**—Warren L. Bostick, M.D., San Francisco.
Discussion.

3:00—**The Serologic Diagnosis of Viral and Rickettsial Diseases**—Charles M. Carpenter, M.D., Los Angeles.
Discussion.

3:40—**Mediterranean Anemia as a Common Diagnostic Problem**—Paul G. Hattersley, M.D., Sacramento.
Discussion.

4:00—**Some Problems Encountered in Blood Banks and Transfusions**—David Singman, M.D., Berkeley, and Charles Smiley, B.A., Berkeley, by invitation.
Discussion.

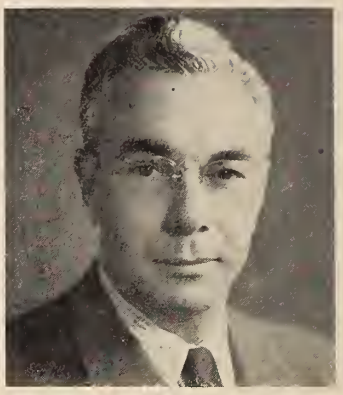
4:20—**Business Meeting—Election of Officers.**

4:30—**Recess—Annual Meeting, California Society of Pathologists.**

PEDIATRICS

Richard D. Cutter, M.D., Palo Alto, *Chairman*
Joseph W. St. Geme, M.D., Los Angeles, *Secretary*
Alvin H. Jacobs, M.D., San Francisco, *Assistant Secretary*

RICHARD D. CUTTER
Chairman



JOSEPH W. ST. GEME
Secretary

TUESDAY, MAY 15

9:30—Music Room, Biltmore Hotel

Joint Meeting with Section on Radiology

9:30—**Radiologic Aspects of Chest Diseases in Children**—John Caffey, M.D., by invitation, New York, N. Y.

10:30—**Megacolon**—Rolla G. Karshner, M.D., Los Angeles, and Emma Elizabeth Leon, M.D., by invitation, Los Angeles.

11:00—**Early Roentgen Diagnosis of Congenital Hip Disease**—Ralph B. Miller, M.D., Los Angeles.

11:30—**Radiation Nephritis** — Anthony R. Camero, M.D., and James H. Cremin, M.D., Los Angeles.

WEDNESDAY, MAY 16

9:30—Conference Room 8, Biltmore Hotel

9:30—**Mediterranean Anemia**—Henry Silver, M.D., San Francisco.

10:00—**The Problem of the Mentally Retarded Child** —Peter Cohen, M.D., San Francisco.

10:30—**Acute Respiratory Diseases in Children**—John Milton Adams, M.D., by invitation, Los Angeles.

11:00—**Evaluation of Activity of Rheumatic Fever**—John Anderson, M.D., San Francisco.

11:30—**Business Meeting.**

WEDNESDAY, MAY 16

2:00—Conference Room 8, Biltmore Hotel

Panel Discussion

What's New in Pediatrics

Moderator: Donald C. Shelby, M.D., Los Angeles

2:00—**Prophylaxis of Eyes of Newborn**—Wendell M. Redfern, M.D., Glendale.

2:20—**Pros and Cons of Routine Circumcision** — Deron Hovsepian, M.D., by invitation, Pasadena.

2:40—**Forefoot Varus in Infants**—Udell M. Gessel, M.D., Los Angeles.

3:00—**Use of ACTH and Cortisone in Children**—Alfred Knudson, M.D., by invitation, Los Angeles.

3:20—**Treatment of Anemia**—Phillip Sturgeon, M.D., by invitation, Los Angeles.

3:40—**Treatment of Epilepsy**—Gaston J. Baus, M.D., Glendale.

PSYCHIATRY AND NEUROLOGY

G. Creswell Burns, M.D., Compton, *Chairman*
O. W. Jones, Jr., M.D., San Francisco, *Secretary*

G. CRESWELL BURNS
Chairman

O. W. JONES, JR.
Secretary

MONDAY, MAY 14

9:30—Conference Room 9, Biltmore Hotel

9:30—**Chairman's Address: Recognition of Mental Illness**—G. Creswell Burns, M.D., Compton.
Discussion.

10:00—**The Ultimate Residuals of Antenatal and Neonatal Asphyxia**—Cyril B. Courville, M.D., Los Angeles.
Discussion.

10:30—**Therapeutic Value of Unilateral Lobotomy in Psychoses**—Alexander Simon, M.D., by invitation, Lester Margolis, M.D., Karl Bowman, M.D., John E. Adams, M.D., San Francisco.
Discussion.

11:00—**Progressive Adhesive Arachnoiditis Following Spinal Anesthesia** — Ward W. Woods, M.D., Roland G. Franklin, M.D., San Diego.
Discussion.

11:30—**Some Viewpoints on Child Psychiatry**—Forrest N. Anderson, M.D., Van Nuys.
Discussion.

TUESDAY, MAY 15

9:30—Conference Room 1, Biltmore Hotel

9:30—**Business Meeting and Election of Officers.**

9:40—**Recurring Utterances in Aphasic Patients**—Macdonald Critchley, M.D., F.R.C.P., London, by invitation.
Discussion.

10:20—**Apoplectic Stroke in the Young Adult**—Edwin Boldrey, M.D., San Francisco.
Discussion.

10:50—**Intracranial Vascular Lesions** — C. Hunter Shelden, M.D., Pasadena.
Discussion.

11:20—**Some Relationships Between Heart Attacks and Paralytic Strokes** — Clarence W. Olsen, M.D., Beverly Hills.
Discussion.

PUBLIC HEALTH

Martin Mills, M.D., Richmond, *Chairman*
J. B. Askew, M.D., San Diego, *Secretary*
John R. Philp, M.D., Chico, *Assistant Secretary*

MARTIN MILLS
Chairman

J. B. ASKEW
Secretary

TUESDAY, MAY 15

9:30—Conference Room 5, Biltmore Hotel

9:30—**Significance of Tuberculosis in the Itinerant Mexican Laborer** — C. R. Kroeger, M.D., El Centro.

Discussion.

10:00—**A Study of Anemia in Mexican Mothers—Their Infants and Their Siblings**—Emma H. B. Wharton, M.D., and Edward Lee Russell, M.D., Santa Ana.

Discussion.

10:30—**Recess.**

10:45—**Mental Health in a Chest Clinic** — Herbert Bauer, M.D., Sacramento.

Discussion by V. J. Wyborney, M.D., San Diego.

11:15—**A 28-Year Review of Tetanus Trends in Los Angeles County**—Mary B. Dale, M.D., Roy O. Gilbert, M.D., Los Angeles, and James T. Oliver, B.S., by invitation, Los Angeles.

Discussion by William P. Frank, M.D., Los Angeles.

WEDNESDAY, MAY 16

9:30—Conference Room 5, Biltmore Hotel

9:30—**A Ten-Year Study of Encephalitis in Kern County**—William C. Buss, M.D., Bakersfield.

Discussion by Edwin H. Lennette, M.D., Berkeley.

10:00—**The Changing Epidemiology of Typhoid Fever in California**—Rosemary Brunetti, M.D., Arthur C. Hollister, Jr., M.D., Berkeley, and Florence Ames, R.N., by invitation, Berkeley.

Discussion.

10:30—**Recess.**

10:45—**The Organization and Operation of a Study of Diarrheal Disease in Fresno County**—William F. Stein, M.D., Fresno.

Discussion by James Watt, M.D., Atlanta, Georgia.

11:30—**Business Meeting and Election of Officers.**

RADIOLOGY

Sydney F. Thomas, M.D., Palo Alto, *Chairman*
Harold P. Tompkins, M.D., Los Angeles, *Secretary*
Robert K. Arbuckle, M.D., Oakland, *Assistant Secretary*

SYDNEY F. THOMAS
Chairman

HAROLD P. TOMPKINS
Secretary

MONDAY, MAY 14

9:30—Conference Room 2, Biltmore Hotel

9:30—**The Treatment of Metastatic Breast Cancer in Bone**—M. A. Sisson, M.D., and L. H. Garland, M.D., San Francisco.

10:00—**Radiation Therapy in Breast Cancer**—A Preliminary Report on the Application of McWhirter's Technique—Colonel Elmer A. Lodmell (MC), USA, San Francisco, by invitation.

Discussion by L. H. Garland, M.D., San Francisco.

10:30—**Recess: Annual Meeting of Pacific Roentgen Society.**

TUESDAY, MAY 15

9:30—Music Room, Biltmore Hotel

Joint Meeting with Section on Pediatrics

For Program, see Section on Pediatrics

WEDNESDAY, MAY 16

9:30—Conference Room 1, Biltmore Hotel

9:30—**Pancreatic Tissue in the Gastric Wall**—Lewis G. Jacobs, M.D., Oakland.

Discussion.

10:00—**Uterosalpingography with Special Reference to the Cervical Canal**—Thomas M. Fullenlove, M.D., San Francisco.

Discussion.

10:30—**Recess: Business Meeting and Election of Officers.**

10:45—**The Use of X-Ray Pelvimetry in Predicting Dystocia** — Calvin L. Stewart, M.D., San Diego.

Discussion.

11:15—**Lymphosarcoma of the Stomach and Small Bowel**—Paul H. Deeb, M.D., and Walter Stilson, M.D., Los Angeles.

Discussion by Olov Bloomquist, M.D., Los Angeles.

UROLOGY

James Ownby, Jr., M.D., San Francisco, *Chairman*
Donald R. Smith, M.D., San Francisco, *Secretary*
Roger W. Barnes, M.D., Los Angeles, *Assistant Secretary*

JAMES OWNBY, JR.
Chairman

DONALD R. SMITH
Secretary

TUESDAY, MAY 15

9:30—Conference Room 9, Biltmore Hotel

Symposium

Genito-Urinary Tuberculosis

9:30—**Diagnosis of Genito-Urinary Tuberculosis**—H. H. Edelbrock, M.D., Los Angeles, by invitation.

Discussion by Lloyd R. Reynolds, M.D., San Francisco.

10:00—**Indications for Surgery in Genito-Urinary Tuberculosis**—Gilbert J. Thomas, M.D., Beverly Hills.

Discussion by J. J. Crane, M. D., Los Angeles.

10:30—**Special Techniques in Surgery of Tuberculosis of the Genito-Urinary Tract**—Thomas E. Gibson, M.D., San Francisco, and James G. Rohn, M.D., San Francisco, by invitation.

Discussion by Lyle G. Craig, M.D., Pasadena.

11:00—**Treatment of Genito-Urinary Tuberculosis with Streptomycin and Synergistic Drugs**—H. Corwin Hinshaw, M.D., San Francisco.

Discussion by Tracy O. Powell, M.D., Hollywood.

11:30—**Correlation Between Genito-Urinary and General Tuberculosis**—Carl R. Howson, M.D., and Elliot A. Rouff, M.D., Los Angeles.

Discussion by Robert J. Prentiss, M.D., San Diego.

WEDNESDAY, MAY 16

9:30—Music Room, Biltmore Hotel

Joint Meeting with Section on General Practice

For Program, see Section on General Practice

WEDNESDAY, MAY 16

2:00—Conference Room 9, Biltmore Hotel

2:00—**Chairman's Address**—James Ownby, Jr., M.D., San Francisco.

2:30—**Sexual Maladjustments**—Clyde W. Collings, M.D., Los Angeles.

Discussion by Steven F. Slepnikoff, M.D., San Francisco.

3:00—**Renal Hemangioma**—Earl F. Nation, M.D., Pasadena.

Discussion by A. A. Kutzmann, M.D., Los Angeles.

3:30—**Surgical Principles of Incising the Renal Parenchyma**—George L. Torassa, M.D., San Francisco.

Discussion by Samuel K. Bacon, M.D., Hollywood.

4:00—**Business Meeting and Election of Officers.**

Scientific Exhibits

Renaissance Room, Biltmore Hotel

Scientific Exhibit Space No.	Exhibit
1	Significant Scrotal Swellings—R. Theodore Bergman, M.D., and Roger W. Barnes, M.D., Los Angeles.
2	The Study, Diagnosis and Surgical Treatment of Congenital Heart Disease—Charles D. Marple, M.D., San Francisco.
3	Save the Premature—Robert F. Chinnock, M.D., Elizabeth Larsson, M.D., Ralph Thompson, M.D., and Milo Brooks, M.D., Los Angeles.
4	Management of Ureteral Injury in Pelvic Surgery—Ralph B. Mullenix, M.D., San Diego.
5	Diseases of the Nails—Robert H. Harris M.D., Long Beach.
6	Child Accidents—Esther B. Clark, M.D., Palo Alto.
7	Tuberculosis as a Cause of Upper Lobe Bronchiectasis—David Salkin, M.D., John S. Chase, M.D., and Edwin P. Bugbee, M.D., San Fernando.

Organizational Exhibits

Galeria, Biltmore Hotel

C.M.A. Postgraduate Activities Committee

C.M.A. Blood Bank Commission

C.M.A. Cancer Commission

Motion Picture Program

Arthur E. Smith, M.D., Los Angeles, *Chairman*
Medical Motion Pictures Committee

SUNDAY, MAY 13

1:00—Biltmore Hotel, Conference Room 1

1:00—Diagnosis of Uterine Malignancies—American Cancer Society.

1:35—Pathology and the Clinical Problem of Atomic Warfare—Headquarters, Sixth Army.

2:12—Arteriovenous Fistula With False Sac Lower Femoral Vessels—Armed Forces Institute of Pathology, Washington, D. C.

2:28—Genital Urinary Surgery for the General Practitioner—Roger W. Barnes, M.D., and R. T. Bergman, M.D., Los Angeles.

2:53—Posterior Colporrhaphy for Third Degree Laceration—Bernard J. Hanley, M.D., Los Angeles.

3:08—Management of Chest Injuries — Lyman A. Brewer, M.D., and Frank S. Dolley, M.D., Los Angeles.

3:28—Elective Supracondylar Amputation of the Thigh—Clarence E. Rees, M.D., San Diego.

3:48—Cooper's Ligament Herniorrhaphy — Jack M. Farris, M.D., Los Angeles.

4:03—Resection of a Large Thymic Tumor—Alton Ochsner, M.D., New Orleans.

4:34—Functions of the Nervous System—Knowledge Builders.

4:46—Total Abdominal Hysterectomy—D. O. Ferris, M.D., Rochester, Minnesota.

5:06—A Place in the Sun—Peter Cohen, M.D., University of California, San Francisco.

5:31—Halsted Operation for Indirect Inguinal Hernia—Kenneth C. Sawyer, M.D., Denver.

MONDAY, MAY 14

9:00 a.m.—Sunkist Building, 707 West 5th Street (Between Grand and Flower Streets)

Auditorium, Room 200

(No Smoking)

9:00—Congenital Atresia of the Esophagus With Tracheo-Esophageal Fistula. Surgical Repair —Mayo Clinic, Rochester, Minnesota.

9:19—One Stage Suprapubic Prostatectomy with Primary Wound Closure—W. C. Eikner, M.D., Clifton Springs, New York.

9:37—Keratoplasty—Ramon Castroviejo, M.D., New York City.

9:49—Surgical Treatment of Coarctation of the Aorta—John C. Jones, M.D., Los Angeles.

10:17—Low Cervical Cesarean Section for Twins Through the Pfannenstiel Incision Using Local Anesthesia—T. A. Strang, M.D., Long Beach.

10:33—Epiphrenic Esophageal Diverticulectomy — Howard Drake, M.D., Los Angeles.

10:48—Transthoracic Repair of Hiatus Hernia—Edward C. Pallette, M.D., Los Angeles.

11:03—Transverse Abdominal Incision for Cesarean Section—D. G. Tollefson, M.D., and Keith P. Russell, M.D., Los Angeles.

11:23—Streptomycin Drugs in Treatment of Tuberculosis—H. Corwin Hinshaw, M.D., Stanford University, San Francisco.

11:45—Recurrent Dislocation of the Shoulder, a Modification of the Magnuson Procedure—William R. Molony, Jr., Los Angeles.

11:59—A Bronchoscopic Clinic — Paul H. Holinger, M.D., Kenneth C. Johnston, M.D., and Frank Novak, M.D., Chicago.

12:37—Obstetric Roentgenography — Paul C. Swenson, M.D., and Thaddeus Montgomery, M.D., Philadelphia.

12:55—Diverticulectomy for Pulsion Diverticulum of Esophagus—C. Douglas Sawyer, M.D., Brooklyn.

1:13—Restoration of Lids and Brow After Massive Trauma—Alston Callahan, M.D., University of Alabama, Birmingham.

1:33—Cyst of Urachus—J. Norman O'Neill, M.D., Los Angeles.

1:48—Excision Branchial Fistula and Cyst—Conrad J. Baumgartner, M.D., Beverly Hills.

2:08—Cerebral Hemispherectomy: Technique—Herbert G. Crockett, M.D., Los Angeles.

2:23—Procidentia—Rafe C. Chaffin, M.D., Los Angeles.

2:43—Adenocarcinoma of Parotid Gland—E. Eric Larson, M.D., Los Angeles.

2:58—Technique of Thyroidectomy — William P. Kroger, M.D., Los Angeles.

3:13—Medical Service in Atomic Disaster — Headquarters, Sixth Army.

3:51—Extensive Skin Grafting in Third and Fourth Degree Burns—Arthur E. Smith, M.D., D.D.S., Los Angeles.

4:21—Your Ear and Noise—Howard P. House, M.D., Los Angeles. Sub-Committee on Noise in Industry of the American Academy of Ophthalmology and Otolaryngology.

4:36—Key Triad of the Chronic Mastoid—Gilbert R. Owen, M.D., Los Angeles.

TUESDAY, MAY 15

9:00 a.m.—Sunkist Building, 707 West 5th Street (Between Grand and Flower Streets)

Auditorium, Room 200

(No Smoking)

9:00—The Surgical Treatment of Hirschsprung's Disease—Robert B. Hiatt, M.D., New York City.

9:22—They Live Again—American Medical Association.

9:33—Treatment of Cleft Palate — Lancaster Cleft Palate Clinic, Lancaster, Pennsylvania.

10:23—Transverse Abdominal Incision for Exploration of Pheochromocytoma — C. M. Stewart, M.D., Los Angeles.

10:38—Polyps of the Rectum and Sigmoid — David Miller, M.D., Los Angeles.

11:00—The Recurrent Laryngeal Nerve in Thyroid Surgery—Max M. Simon, Poughkeepsie.

11:18—Hemicolectomy for Carcinoma of the Right Side of the Colon—Philip Thorek, M.D., Chicago.

11:39—Radical Resection of Parotid for Tumor—Donald E. Ross, M.D., Los Angeles.

11:59—Malignant Oral Tumors—Armed Forces Institute of Pathology, Washington, D. C.

12:39—Modified Guillotine Amputation Through Leg for Arteriosclerotic Gangrene With and Without Diabetes — Beverly Chew Smith, M.D., New York City.

12:59—Instructive Cases in Bone Surgery With Follow-up Records—Hugh Toland Jones, M.D., Los Angeles.

1:14—Kondoleon's Operation — J. Norman O'Neill, M.D., Los Angeles.

1:26—Transthoracic Resection of Carcinoma of the Gastric Cardia and Distal Esophagus—Harold Lincoln Thompson, M.D., Los Angeles.

1:51—Extraperitoneal Cesarean Section: A Simplified Paravesical Approach—A. R. Abarbanel, M.D., Los Angeles.

2:06—Anatomical Aspects of Ligamentous Injuries of the Knee—John R. Black, M.D., Los Angeles.

2:26—Surgical Correction of Congenital Maxillofacial Deformities—Marsh Robinson, D.D.S., M.D., Los Angeles.

2:46—Intravenous Anesthesia and Tracheal Intubation—Glenn J. Potter, M.D., Los Angeles.

3:36—Plastic Reconstruction of Mutilated Faces and Jaws Resulting From Severe Injuries—Arthur E. Smith, M.D., D.D.S., Los Angeles.

4:11—Highlights of Perineal Prostatectomy—Elmer Belt, M.D., Los Angeles.

4:41—Wounds of the Hand—United States Navy, Washington, D. C.

TUESDAY, MAY 15

7:30 p.m.—Biltmore Hotel, Conference Room 1

7:30—Pulsion Diverticulum of the Lower Esophagus —Transpleural One Stage Diverticulectomy— S. W. Harrington, M.D., Rochester, Minnesota.

7:45—Rehabilitation of a Pianist—Henry H. Kessler, M.D., Newark.

8:00—Intramedullary Pinning of the Femur—Stanley S. Haft, M.D., Los Angeles.

8:12—Abdominal Lipomatosis — Harold I. Harris, M.D., Hollywood.

8:23—The Treatment of Plastic Maxillary and Facial Injuries—Henry S. Patton, M.D., Oakland. J. B. Macomber, M.D., and William McCarthy, M.D., Denver.

8:53—Bronchiogenic Carcinoma—Veterans Administration, Washington, D. C., American College of Surgeons.

9:13—Carcinoma of the Gastrointestinal Tract— American Cancer Society.

9:46—Atomic Medical Cases, Japan, World War II —Armed Forces Institute of Pathology, Washington, D. C.

10:23—Wounds of the Face and Jaw—United States Navy, Washington, D. C.

10:43—The Repair of a Single Hare Lip by the Hagedorn-Le Mesurier Technique—Claire L. Straith, M.D., Detroit.

10:58—Correction of Hump Nose Using the Profilometer—Claire L. Straith, M.D., Detroit.

WEDNESDAY, MAY 16

1:00 p.m.—Biltmore Hotel, Conference Room 1

1:00—A Method of Cataract Extraction With the Dimitry Erisophake—J. H. Judd, M.D., Omaha.

1:12—Total Reconstruction of the Lower Eyelid— Thomas D. Cronin, M.D., Houston.

1:32—Cartilage Implant for Depressed Fracture of Orbital Margin and the Maxilla—Wendell L. Hughes, M.D., Hempstead, New York.

1:47—Extraperitoneal Cesarean Section—By 'Waters'—Bernard J. Hanley, M.D., Los Angeles.

2:02—Biesenberger Technic for Pendulous Breasts —Harold I. Harris, M.D., Hollywood.

2:17—Esophageal Diverticulectomy — Conrad J. Baumgartner, M.D., Beverly Hills.

2:39—Vaginal Hysterectomy Technic — John C. Weed, M.D., New Orleans.

3:07—Plastic Repair of Mandibular Prognathism— Arthur J. Barsky, M.D., New York City.

3:22—Reconstruction of the Hand — William H. Frackelton, M.D., Milwaukee.

3:36—Support of the Paralyzed Face With Fascia— James Barrett Brown, M.D., and Frank McDowell, M.D., St. Louis.

3:55—Open Air Therapy of Acute Extensive Burns —T. G. Blocker, Jr., University of Texas, Galveston.

4:10—Segmental Resection of a Portion of the Stomach and Gastroenterostomy — Waltman Walters, M.D., Rochester, Minnesota.

4:28—The Dermatape Method of Split Skin Grafting —John D. Reese, M.D., Philadelphia.

4:40—Surgical Treatment of a Congenital Heart Disease: Pulmonary Stenosis — R. Arnold Griswold, M.D., University of Louisville, Louisville.

ANNUAL GOLF TOURNAMENT

Tuesday Afternoon, May 15

WILSHIRE COUNTRY CLUB

The Annual Golf Tournament will be held Tuesday afternoon, May 15, at the Wilshire Country Club. All members attending the meeting are welcome to play. Numerous prizes will be awarded. Make reservations with W. L. Roberts, M.D., Secretary, Southern California Medical Golf Association, 727 West Seventh Street, Los Angeles; telephone TUcker 2417.

INDEX TO SPEAKERS

Los Angeles, May 13-May 16, 1951

Name and City — *Page*

A

Adams, John E., *San Francisco* ... 309
Adams, John Milton, *Los Angeles* ... 312
Aijian, H. Schuyler, *Los Angeles*, et al. ... 311
Anderson, Bruce M., *Oakland* ... 306
Anderson, Forrest, *Van Nuys* ... 313
Anderson, John, *San Francisco* ... 312
Arnot, Philip H., *San Francisco* ... 304
Asher, Leonard M., *Beverly Hills* ... 301
Atsatt, Rodney F., *Santa Barbara* ... 309
Auerback, Alfred, *San Francisco* ... 304

B

Baro, Walter Z., *Los Angeles* ... 309
Bauer, Herbert, *Sacramento* ... 314
Baus, Gaston J., *Glendale* ... 312
Beard, Crowell, *San Jose*, et al. ... 308
Beckh, Walter, *San Francisco*, et al. ... 301
Bennett, Louis C., *Los Angeles* ... 303
Bergstrom, Brigham, *Beverly Hills* ... 301
Boldrey, Edwin B., *San Francisco* ... 313
Bostick, Warren L., *San Francisco* ... 311
Brainerd, Henry, *San Francisco*, et al. ... 301
Brunetti, Rosemary, *Berkeley*, et al. ... 314
Burkland, Carl E., *Sacramento* ... 304
Burnham, DeWitt, *San Francisco* ... 301
Burns, G. Creswell, *Compton* ... 313
Buss, William C., *Bakersfield* ... 314
Byron, Francis X., *Los Angeles* ... 300

C

Caffey, John B., *New York, N. Y.* ... 299, 312
Camero, Anthony R., *Los Angeles* ... 312
Carpenter, Charles M., *Los Angeles* ... 311
Cass, Donald, *Los Angeles* ... 299
Cassels, William H., *San Mateo* ... 306
Charnock, Donald A., *Los Angeles* ... 304
Cheney, Garnett, *San Francisco* ... 301
Churchill, Robert W., *San Francisco* ... 306
Collings, Clyde W., *Los Angeles* ... 316
Cohen, Peter, *San Francisco* ... 312
Cotton, Bert H., *Beverly Hills* ... 300
Courville, Cyril B., *Los Angeles* ... 313
Crandall, Frank G., Jr., *Los Angeles* ... 305
Crane, Edward H., *Inglewood* ... 308
Critchley, Macdonald, *London* ... 299, 313

D

Dale, Mary B., *Los Angeles*, et al. ... 314
Davies, O. G., *San Francisco*, et al. ... 302
Deeb, Paul H., *Los Angeles*, et al. ... 315
Dennis, James L., *Merced* ... 304
Dennis, Robert L., *San Jose* ... 307
Dickinson, Everett, *Oakland*, et al. ... 302
Dillon, John B., *Los Angeles* ... 306
Dugan, David J., *Oakland* ... 300

Name and City — *Page*

E

Edelbrock, H. H., *Los Angeles* ... 316
Engleman, Ephraim P., *San Francisco* ... 300
Epstein, Norman, *San Francisco*, et al. ... 309
Evans, Edward R., *Pasadena* ... 301

F

Farber, Eugene, *San Francisco* ... 307
Farber, Seymour, *San Francisco* ... 300
Friedman, Henry T., *Beverly Hills* ... 305
Friedman, Nathan B., *Los Angeles* ... 311
Fullenlove, Thomas M., *San Francisco* ... 315

G

Gadwood, Bernard B., *Richmond* ... 304
Garron, Levon K., *Oakland* ... 308
Gerbode, Frank, *San Francisco* ... 302
Gessel, Udell M., *Los Angeles* ... 312
Gibson, Thomas E., *San Francisco*, et al. ... 316
Goldman, Mervin J., *Oakland* ... 301
Guiss, Lewis E., *Los Angeles* ... 301

H

Harmon, Paul H., *Oakland* ... 309
Harris, Marvin, *Los Angeles* ... 305
Harris, M. Coleman, *Los Angeles*, et al. ... 305
Hartman, Deane C., *Los Angeles* ... 308
Hattersley, Paul G., *Sacramento* ... 311
Headley, Nathan E., *Los Angeles* ... 300
Henley, R. Bruce, *Oakland* ... 303
Hewitt, William, *Los Angeles* ... 300
Heyd, Charles Gordon, *New York, N. Y.* ... 299
Hill, Malcolm R., *Los Angeles* ... 304
Hinman, Frank Jr., *San Francisco* ... 304
Hinshaw, H. Corwin, *San Francisco* ... 316
Holstein, Arthur, *Berkeley*, et al. ... 309
Hovsepian, Deron, *Pasadena* ... 312
Howson, Carl R., *Los Angeles*, et al. ... 316
Hurley, Melvin T., *Richmond* ... 309

I

Ingels, Arne E., *San Francisco* ... 307

J

Jacobs, Lewis G., *Oakland* ... 315
Jaffe, Henry L., *Los Angeles* ... 310
Joergenson, E. J., *Glendale*, et al. ... 303

K

Karshner, Rolla G., *Los Angeles*, et al. ... 312
Kenney, John M., *Santa Rosa*, et al. ... 303
Kirshbaum, J. D., *San Bernardino* ... 311
Knudson, Alfred, *Los Angeles* ... 312
Knutti, Ralph E., *Los Angeles* ... 311

Name and City	*Page*
Kroeger, C. R., *El Centro*	314
Krohn, Leon, *Los Angeles*	310
Krupp, Marcus A., *Palo Alto*, et al.	300
L	
Lamb, Gordon R., *Oakland*, et al.	300
Lawrence, Lester B., *Oakland*	304
Lee, Stanley T., *Fresno*	310
Leggo, Christopher, *Crockett*	309
Leivers, Emery, *Woodland*	308
Lennette, Edwin H., *Berkeley*, et al.	301
Lindner, H. H., *San Francisco, et al.*	302
Lodmell, Elmer A., *San Francisco*	315
Lomas, Woodrow, *San Francisca*	306
Lubeck, Glenn, *Oakland*	307
M	
Macdonald, Ian, *Los Angeles*	310
Maier, Herbert C., *New York, N. Y.*	299, 300, 302
Malone, Charles M., *Los Angeles*	310
Marshall, James M., *Pasadena*	303
Martin, Walter P., *Long Beach*, et al.	301
Massell, Theodore B., *Los Angeles*	302
Maynard, Merlin T-R., *San Jose*	307
Melnick, Perry J., *Los Angeles*, et al.	311
Melody, George F., *San Francisco*	310
Miller, Hyman, *Beverly Hills*	305
Miller, Ralph B., *Los Angeles*	312
Moffitt, Herbert C., Jr., *San Francisco*	301
Molle, William E., *Los Angeles*, et al.	301
Muller, William H., Jr., *Los Angeles*	302
N	
Nation, Earl F., *Pasadena*	316
Newman, Ben, *Los Angeles*	307
Nichols, J. Norton, *Los Angeles*	303
Nugent, Maurice, *Los Angeles*	305
O	
Olsen, Clarence W., *Beverly Hills*	313
Ouer, Roy A., *San Diego*	305
Ownby, James, Jr., *San Francisco*	316
P	
Payne, Sheldon A., *Los Angeles*	307
Perlman, Frank, *Portland, Oregon*	305
Poytress, Richard W., *San Jose*	306
Price, Harold, *North Hollywood*	307
R	
Ramsay, Beatty H., *Los Angeles*	302
Redfern, Wendell M., *Glendale*	312
Reed, Paul H., *Los Angeles*	308
Rees, Rees B., Jr., *San Francisco*, et al.	307
Reeves, James E., *San Diego*	304
Rinehart, James F., *San Francisco*	305
Ringrose, Edward J., *Berkeley*	307
Roman, D. A., *Los Angeles*, et al.	306
Russell, Keith P., *Los Angeles*	310
Rutherford, Miriam H., *Oakland*	308
S	
Schillinger, Robert J., *Los Angeles*	308
Shelden, C. Hunter, *Pasadena*	313
Silver, Henry, *San Francisco*	312
Simon, Alexander, *San Francisco*, et al.	313
Singman, David, *Berkeley*, et al.	311
Sisson, M. A., *San Francisco*, et al.	315
Smart, Reginald, *Los Angeles*	300
Smith, Charles E., *Berkeley*	300
Sooy, Francis, *San Francisco*	308
Stein, William F., *Fresno*	314
Stewart, Calvin L., *San Diego*	315
Stofer, Dar D., *Monterey*	305
Sturgeon, Charles T., *Los Angeles*, et al.	302
Sturgeon, Phillip, *Los Angeles*	312
Sturgis, Cyrus C., *Ann Arbor, Michigan*	299, 300, 301
T	
Thomas, Gilbert J., *Beverly Hills*	316
Thornberg, Frank M., *Oakland*	306
Thurber, Packard, *Los Angeles*	309
Torassa, George L., *San Francisco*	316
Trimble, Harold G., *Oakland*, et al.	301
U	
Urist, Marshall R., *Los Angeles*	309
W	
Watson, Blake H., *Los Angeles*	310
Weinberg, Joseph, *Long Beach*	302
Westwater, John O., *Los Angeles*	301
Wexler, Manuel R., *Los Angeles*	308
Wharton, Emma H. B., *Santa Ana*, et al.	314
Wilkinson, Allan B., *Glendale*	302
Wilson, J. Walter, *Los Angeles*	307
Woods, Ward W., *San Diego*, et al.	313
Z	
Zeiler, Meyer, *Los Angeles*	311

C. M. A. Cancer Commission Pre-Convention Conference

BILTMORE HOTEL, LOS ANGELES
SATURDAY, MAY 12

The pre-convention conferences sponsored by the Cancer Commission will be held at the Biltmore Hotel on Saturday, May 12, the day preceding the opening of the California Medical Association meeting.

PATHOLOGY

PATHOLOGY—Conference Room 1, Biltmore Hotel

The pre-convention Conference on Microscopic Tumor Pathology will be held from 9:30 a.m. to 12 noon and from 2:00 p.m. to 4:30 p.m., under the chairmanship of Dr. James E. Kahler, Los Angeles. Dr. David A. Wood, San Francisco, will be the moderator. Tumor diagnostic problems will be presented and discussed with emphasis on tumors of the intestinal tract. Members who attend this conference are requested to bring their own microscopes and to register now with Dr. E. M. Hall, Tumor Registry, Los Angeles County General Hospital, 1200 North State Street, Los Angeles 33.

RADIOLOGY

RADIOLOGY—Conference Room 2, Biltmore Hotel

The pre-convention Conference on Radiology will be held from 9:30 a.m. to 12 noon and from 2:00 p.m. to 4:30 p.m., under the chairmanship of Dr. R. F. Niehaus, San Diego. Dr. Merrell A. Sisson of San Francisco is secretary.

SCIENTIFIC SESSIONS

	SUNDAY MAY 13		MONDAY MAY 14		TUESDAY MAY 15		WEDNESDAY MAY 16	
	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.	A.M.	P.M.
BILTMORE THEATRE	**10:00** General Meeting		**9:00** General Medicine General Surgery	**2:00** General Meeting and Clinical-Pathological Conference				
BILTMORE HOTEL Music Room		**1:00 House of Delegates**	**9:30** General Practice		**9:30** Pediatrics Radiology	**1:00 House of Delegates**	**9:30** General Practice Urology	
Conference Room 1		**1:00 Medical Motion Pictures**			**9:30** Psychiatry and Neurology	**7:30 Medical Motion Pictures**	**9:30** Radiology	**1:00 Medical Motion Pictures**
Conference Room 2			**9:30** Radiology					
Conference Room 4							**9:30** Allergy	**2:00** Allergy
Conference Room 5			**9:30** Anesthesiology	**2:00** Anesthesiology	**9:30** Public Health		**9:30** Public Health	
Conference Room 7			**9:30** Industrial Medicine and Surgery					
Conference Room 8			**9:30** Eye, Ear, Nose and Throat	**2:00** Eye, Ear, Nose and Throat			**9:30** Pediatrics	**2:00** Pediatrics
Conference Room 9			**9:30** Psychiatry and Neurology	**2:00** Industrial Medicine and Surgery	**9:30** Urology			**2:00** Urology
BAPTIST CHURCH Burdette Hall Fifth and Olive Sts.			**9:30** Dermatology and Syphilology	**2:00** Dermatology and Syphilology	**9:30** General Medicine General Practice		**9:30** General Medicine	**2:00** General Medicine
BAPTIST CHURCH Chapel Fifth and Olive Sts.			**9:30** Pathology and Bacteriology	**2:00** Pathology and Bacteriology	**9:30** Obstetrics and Gynecology		**9:30** Obstetrics and Gynecology	
SO. CALIFORNIA EDISON BLDG. Fifth and Grand Sts.					**9:30** General Surgery		**9:30** General Surgery	
SUNKIST BUILDING Fifth and Flower Sts.			**9:00 Medical Motion Pictures**		**9:00 Medical Motion Pictures**			

COUNCIL OF THE C.M.A. MEETS DAILY AT 7:30 A.M. IN CONFERENCE ROOM 6, BILTMORE HOTEL

SCIENTIFIC EXHIBITS—RENAISSANCE ROOM, BILTMORE HOTEL

HOUSE OF DELEGATES MEETS SUNDAY AND TUESDAY, 1:00 P.M.

WOMAN'S AUXILIARY

to the

CALIFORNIA MEDICAL ASSOCIATION

Twenty-First Annual Convention, May 13-15, 1951

Headquarters: Biltmore Hotel, Los Angeles, California

MRS. WILLIAM R. MOLONY, JR.
President

MRS. STANLEY R. TRUMAN
President-Elect

Convention Chairman: MRS. ARTHUR HURD

REGISTRATION

Sunday, May 13—9:00 a.m. - 12 noon
Monday, May 14—9:00 a.m. - 5:00 p.m.
Tuesday, May 15—9:00 a.m. - 12 noon
Main Galeria, Biltmore Hotel

SUNDAY, MAY 13

8:00 a.m.—Executive Committee Meeting, President's Suite, Biltmore Hotel.

10 a.m.—Opening Session of the California Medical Association. Report of the year's work of the Woman's Auxiliary by the President, Mrs. William R. Molony, Jr. All Auxiliary members and doctors' wives are invited to attend. Biltmore Theatre.

10:30 a.m. — Pre - Convention Board Meeting, Conference Room 9, Biltmore Hotel.

MONDAY, MAY 14

9:30 a.m.—First General Session of the 21st Annual Meeting, Ballroom, Alexandria Hotel, 210 West Fifth Street. Mrs. William R. Molony, Jr., President, presiding.

4:00 - 6:00 p.m.—Reception, honoring Mrs. Donald Cass, wife of the President of the California Medical Association. All doctors' wives and their husbands are invited. Music Room, Biltmore Hotel.

7:30 p.m.—California Medical Association Dinner and Dance, honoring the President, Dr. Donald Cass. Biltmore Bowl, Biltmore Hotel.

TUESDAY, MAY 15

9:00 a.m.—Second General Session of the 21st Annual Meeting. Ballroom, Alexandria Hotel, 210 West Fifth Street.

12:00 to 12:30 p.m.—School of Instruction for County Presidents, Officers, and Committee Chairmen. Ballroom, Alexandria Hotel.

1:00 p.m.—Luncheon honoring Mrs. William R. Molony, Jr., Mrs. Stanley R. Truman, the State Advisory Board, and Past State Presidents. Biltmore Bowl, Biltmore Hotel.

3:00 p.m. — Post-Convention Board Meeting. Conference Room 7, Biltmore Hotel. Mrs. Stanley R. Truman, presiding.

Technical Exhibits

This year the Association welcomes the largest technical exhibit in its history. The Ball Room, Ball Room Foyer and the Renaissance Room will be given over to this exhibit, and in these quarters will be found the latest developments in apparatus, pharmaceuticals, biologics and services. Your attendance at the exhibits is earnestly urged.

Exhibitors at C.M.A. meetings are carefully screened as to the quality and efficacy of their products or services. Physicians may be assured that the items on display are accurate and representative of the finest in their respective fields. A veritable postgraduate course is available in a thorough visit among the exhibits.

The schedule of meetings has been arranged to permit two free afternoons. We suggest that this time may be profitably used by touring the exhibit areas and catching up on the newest and best in the products displayed. Competent, courteous representatives are at your service, ready and anxious to answer your questions and bring you the latest information on their products and services.

The exhibitors pay for the privilege of displaying their commodities to you; in fact, their financial contribution makes possible the scheduling of the entire meeting. For this, if not for yourself, a visit to the exhibits is indeed indicated.

ABBOTT LABORATORIES
Booth No. 16 ..... Ballroom

A. S. ALOE COMPANY
Booth No. 64 ..... Renaissance Room

AMES COMPANY, INC.
Booth No. 24 ..... Ballroom

AYERST, McKENNA & HARRISON LIMITED
Booth No. 27 ..... Ballroom

BABY DEVELOPMENT CLINIC
Booth No. 89 ..... Renaissance Room

BAKER LABORATORIES, INC., THE
Booth No. 31 ..... Ballroom

BARNES-HIND LABORATORIES, INC.
Booth No. 78 ..... Renaissance Room

DON BAXTER, INC.
Booth No. 41 ..... Ballroom Foyer

BILHUBER-KNOLL CORP.
Booth No. 14 ..... Ballroom

BORDEN COMPANY, THE
Booth No. 60 ..... Renaissance Room

BORDEN COMPANY, THE,
EVAPORATED MILK DIVISION
Booth No. 59 ..... Renaissance Room

A. M. BROOKS COMPANY
Booth No. 81 ..... Renaissance Room

BURROUGHS WELLCOME & COMPANY
Booth No. 17 ..... Ballroom

CAMEL CIGARETTES
Booths Nos. 2 and 3 ..... Ballroom

CAMERON SURGICAL SPECIALTY COMPANY
Booth No. 42 ..... Ballroom Foyer

ELDON H. CANRIGHT COMPANY, INC.
Booth No. 93 ..... Renaissance Room

CARNATION COMPANY
Booth No. 35 ..... Ballroom Foyer

CIBA PHARMACEUTICAL PRODUCTS, INC.
Booth No. 13 ..... Ballroom

COCA-COLA COMPANY, THE
Booth No. 56 ..... Renaissance Room

COMMERCIAL SOLVENTS CORPORATION
Booth No. 49 ..... Ballroom Foyer

CONTINENTAL MEDICAL BUREAU, Agency
Booth No. 77 ..... Renaissance Room

CUTTER LABORATORIES
Booth No. 45 ..... Ballroom Foyer

G. DANZ & SONS
Booth No. 67 ..... Renaissance Room

DESITIN CHEMICAL COMPANY
Booth No. 88 ..... Ballroom Foyer

DEVEREUX FOUNDATION, THE
Booth No. 48 ..... Ballroom Foyer

DIETENE COMPANY, THE
Booth No. 12 ..... Ballroom

DOHO CHEMICAL CORPORATION
Booth No. 80 ..... Renaissance Room

EATON LABORATORIES, INC.
Booth No. 11 ..... Ballroom

ENDO PRODUCTS, INC.
Booth No. 54 ..... Ballroom Foyer

C. B. FLEET CO., INC.
Booth No. 26 ..... Ballroom

ROLAND J. GAUPEL COMPANY
Booth No. 75 ..... Renaissance Room

GENERAL ELECTRIC X-RAY CORPORATION
Booth No. 91 ..... Renaissance Room

GERBER PRODUCTS COMPANY
Booth No. 21 ..... Ballroom

OTIS E. GLIDDEN & CO., INC.
Booth No. 76 ..... Renaissance Room

JOHN F. GREER COMPANY
Booth No. 20 ..... Ballroom

HAMILTON-DAUGHERTY, INC.
Booth No. 37 ..... Ballroom Foyer

HARROWER LABORATORY, INC., THE
Booth No. 69 ..... Renaissance Room

H. J. HEINZ COMPANY
Booth No. 73 ..... Renaissance Room

HOFFMANN-LA ROCHE, INC.
Booth No. 5 ..... Ballroom

HOLLAND-RANTOS COMPANY, INC.
Booth No. 66 ..... Renaissance Room

LANTEEN MEDICAL LABORATORIES, INC.
Booth No. 68 ..... Renaissance Room

LEDERLE LABORATORIES
Booth No. 18 ..... Ballroom

LIBBY, McNEILL & LIBBY
Booth No. 79 ..... Renaissance Room

LIEBEL-FLARSHEIM COMPANY, THE
Booth No. 46 ..... Ballroom Foyer

ELI LILLY AND COMPANY
Booth No. 40 ..... Ballroom Foyer

J. B. LIPPINCOTT COMPANY
Booth No. 51 ..... Ballroom Foyer

LOV-É BRASSIERE COMPANY
Booth No. 7 ..... Ballroom

M & R DIETETIC LABORATORIES
Booth No. 30 ..... Ballroom

MARLYN CO., INC.
Booth No. 52 ..... Ballroom Foyer

S. E. MASSENGILL COMPANY, THE
Booth No. 28 ..... Ballroom

McNEIL LABORATORIES, INC.
Booth No. 47 ..... Ballroom Foyer

MEAD JOHNSON & COMPANY
Booth No. 34 ..... Ballroom Foyer

MEDCO PRODUCTS CO.
Booth No. 85 ..... Renaissance Room

MEDICAL PROTECTIVE COMPANY, THE
Booth No. 55 ..... Ballroom Foyer

MERCK & CO., INC.
Booth No. 29 ..... Ballroom

WILLIAM S. MERRELL COMPANY, THE
Booth No. 4 ..... Ballroom

C. V. MOSBY COMPANY, THE
Booth No. 22 ..... Ballroom

NATIONAL DRUG COMPANY
Booth No. 65 ..... Renaissance Room

NESTLE COMPANY, INC., THE
Booth No. 10 ..... Ballroom

NETTLESHIP COMPANY, THE
Booth No. 94 ..... Renaissance Room

ORTHO PHARMACEUTICAL CORPORATION
Booth No. 9 ..... Ballroom

PACIFIC COAST MEDICAL BUREAU
Booth No. 77 ..... Renaissance Room

PARKE, DAVIS & CO.
Booth No. 50 ..... Ballroom Foyer

PELTON & CRANE CO.
Booth No. 43 ..... Ballroom Foyer

PET MILK COMPANY
Booths Nos. 38 and 39 ..... Ballroom Foyer

PHILIP MORRIS & CO., LTD., INC.
Booth No. 63 ..... Renaissance Room

PICKER X-RAY
Booth No. 8 ..... Ballroom

RICHARDS MANUFACTURING COMPANY
Booth No. 71 ..... Renaissance Room

RIKER LABORATORIES, INC.
Booth No. 83 ..... Renaissance Room

A. H. ROBINS COMPANY, INC.
Booth No. 57 ..... Renaissance Room

J. B. ROERIG & COMPANY
Booth No. 74 ..... Renaissance Room

SANBORN COMPANY
Booth No. 61 ..... Renaissance Room

SANDOZ PHARMACEUTICALS
Booth No. 87 ..... Renaissance Room

W. B. SAUNDERS COMPANY
Booth No. 1 ..... Ballroom

R. L. SCHERER COMPANY
Booth No. 44 ..... Ballroom Foyer

SCHERING CORPORATION
Booth No. 15 ..... Ballroom

JULIUS SCHMID, INC.
Booth No. 95 ..... Renaissance Room

G. D. SEARLE & CO.
Booth No. 36 ..... Ballroom Foyer

SHARP & DOHME, INC.
Booth No. 33 ..... Ballroom Foyer

SMITH-DORSEY COMPANY, THE
Booth No. 62 ..... Renaissance Room

SMITH, KLINE & FRENCH LABORATORIES
Booth No. 19 ..... Ballroom

E. R. SQUIBB & SONS
Booth No. 53 ..... Ballroom Foyer

J. W. STACEY, INC.
Booth No. 90 ..... Renaissance Room

STAYNER CORPORATION
Booth No. 84 ..... Renaissance Room

STUART COMPANY, THE
Booth No. 92 ..... Renaissance Room

UNITED LABORATORIES, LTD.
Booth No. 72 ..... Renaissance Room

U. S. VITAMIN CORPORATION
Booth No. 23 ..... Ballroom

VAISEY-BRISTOL SHOE CO., INC.
Booth No. 70 ..... Renaissance Room

VARICK PHARMACAL CO., INC.
Booth No. 6 ..... Ballroom

WALKER VITAMIN PRODUCTS, INC.
Booth No. 58 ..... Renaissance Room

WALTERS SURGICAL COMPANY
Booth No. 43 ..... Ballroom Foyer

WESTWOOD PHARMACAL CORPORATION
Booth No. 25 ..... Ballroom

WHITE LABORATORIES, INC.
Booth No. 32 ..... Ballroom

WINTHROP-STEARNS, INC.
Booth No. 86 ..... Renaissance Room

WYETH, INCORPORATED
Booth No. 82 ..... Renaissance Room

About the Exhibitors

ABBOTT LABORATORIES — Booth No. 16
North Chicago, Illinois

Abbott will exhibit a number of its leading products, such as ABBOCILLIN-DC, 600,000 units of penicillin in a 1-cc. cartridge; IBEROL, a vitamin B complex and liver concentrate tablet; DUOZINE DULCETS, a combination of sulfadiazine and sulfamerazine in candy form; DAYAMIN, a pleasantly flavored multiple vitamin capsule, and OPTILETS, a therapeutic formula tablet containing six synthetic vitamins, plus vitamin B_{12}.

A. S. ALOE COMPANY — Booth No. 64
Los Angeles

We plan to display the latest and most modern in office furniture including our new and exclusive contour Steeline examining and treatment room furniture.

We also will show a complete line of Physio Therapy equipment, X-ray, Beck Lee Cardiall, Aloetherm, Alectron, etc.

A representative line of general and specialized instruments will be shown for your inspection.

AMES COMPANY, Inc. — Booth No. 24
Elkhart, Indiana

Ames Company representatives will be glad to discuss DECHOLIN and DECHOLIN SODIUM, the standard hydrocholeretic agents for the treatment of biliary tract diseases.

They will be demonstrating CLINITEST, ACETEST, BUMINTEST, and HEMATEST, simplified tests for the detection of urine-sugar, acetone bodies, albumin, and occult blood.

AYERST, McKENNA & HARRISON, Ltd.
New York, New York — **Booth No. 27**

Physicians attending the California Medical Association meeting are cordially invited to visit the Ayerst booth. Our representatives will be happy to answer your inquiries relative to "Premarin," "Premarin" with Methyltestosterone, and all other Ayerst specialties.

BABY DEVELOPMENT CLINIC — Booth No. 89
Chicago, Illinois

The Baby Development Clinic will feature the psychological aspects of feeding, as well as several products suited to infant and child feeding and care. The manufacturers of these products support the educational work of this organization.

The Baby Development Clinic will announce a new service to be known as the Maternity Counselling Service which will be of interest to doctors for their maternity patients.

THE BAKER LABORATORIES — Booth No. 31
Cleveland, Ohio

"Baker's" Modified Milk (powder and liquid) and Varamel (liquid) are especially made, from Grade A milk, for the bottle-fed baby. Baker's is completely prepared and only water needs to be added. Varamel is the new formula base to which carbohydrate and water are added in accordance with the needs of the infant. Our representatives will be glad to tell you more about these products.

BARNES-HIND LABORATORIES, Inc.
San Francisco Booth No. 78

Barnes-Hind Laboratories, Inc. takes great pleasure in bringing to the medical profession several of our newest products, namely: Pasna Granules, Pasna Lyophilized, Water Dispersible Vitamin A, and the new lipotropic agents, MIC Liquid and MIC tablets.

DON BAXTER, Inc. Booth No. 41
Glendale

The Baxter exhibit will feature new solutions including Kaladex, Baxter's Potassium solution, Ammonium Chloride, Hyprotigen with Alcohol, and dilute Procaine solutions. New, improved blood collection bottles and equipment will also be shown. One of the features of the exhibit will be the new and interesting line of Baxter Expendable Plastic Tubes and Catheters.

BILHUBER-KNOLL CORP. Booth No. 14
Orange, New Jersey

Visit the Bilhuber-Knoll Booth No. 14 for the latest information on Valoctin, the new sedo-spasmolytic. Your discussions of this and their original medicinal chemicals, such as Bromural, Dilaudid, Theocalcin, Metrazol, etc., will be cordially welcomed.

THE BORDEN COMPANY Booth No. 60
New York, New York

Borden representatives will be more than pleased to discuss a new powdered infant food with you. Bremil is a completely modified milk in which nutritionally essential elements of cow's milk have been adjusted in order to supply the nutritional requirements of infants deprived of human milk. Clinical, x-ray and laboratory evidence with a large group of infants fed exclusively on Bremil proved conclusively its efficacy as an infant food. Bremil is a new phase in infant feeding.

THE BORDEN COMPANY—Evaporated Milk Div.
San Francisco Booth No. 59

Our special representatives will be in the booth to answer questions and distribute special approved literature. The animated baby will be there to encourage your smiles. Borden's 100 per cent Instant Coffee will be served.

A. M. BROOKS COMPANY Booth No. 81
Los Angeles

We shall be happy to meet our many friends in Booth No. 81, where we shall again feature the outstanding diathermy of the year, the Raytheon (radar) Microtherm. Also, Edin cardiograph, ADC Audiometers, AMBCO Hearing Amplifiers, and many other physical therapy items, such as Sinewaves, Vasculator, Whirlpool bath, Quartz and Infra-red lamps, etc. Competent salesmen on hand to demonstrate all equipment.

BURROUGHS WELLCOME & COMPANY
New York, New York Booth No. 17

Intermediate-acting Globin Insulin 'B.W.&Co.' will be a feature product. Globin Insulin, a clear solution which requires no preliminary shaking, is now official in the U.S.P.—the only intermediate-acting insulin to receive this recognition. We will also feature 'Perazil' brand Chlorcyclizine Hydrochloride, the chemically different antihistaminic with longer action and fewer side-effects; and 'Empiral,' which combines the well-known analgesic action of 'Tabloid' 'Empirin' compound with the sedative action of phenobarbital.

CAMEL CIGARETTES Booths Nos. 2 and 3
New York, New York

Camel cigarettes will exhibit a large detailed photograph showing the calculated absorption of nicotine from cigarette smoke in the human respiratory tract. Representatives will be on hand to discuss any phase of the physiological effects of smoking.

CAMERON SURGICAL SPECIALTY COMPANY
Chicago, Illinois Booth No. 42

See the new Cameron Surgical Diathermy Units and accessories for all phases of Electro-Surgery, Electro-Cauterization, Electro-Coagulation, Desiccation, Fulguration and orificial Ultra-Violet treatment; Electro-Diagnostic Lamp and Instrument Outfits; the Boros Flexible Esophagoscope and other Peroral Endoscopic Equipment; Coagulair and Dualite Sigmoidoscopes; Tele-Vaginalite and Radiolucent Uterine Cannula; Mirrolite and other Headlights; Binocular Loupes; Illuminated Specula, Endoscopes and Retractors, and other instruments for general and special Diagnosis, Treatment and Surgery.

ELDON H. CANRIGHT COMPANY, Inc.
Glendale Booth No. 93

You are invited to visit the Eldon H. Canright Company booth where our specialty prescription formulas will be on exhibit. Descriptive literature will be available, and courteous personnel will be in attendance.

CARNATION COMPANY Booth No. 35
Los Angeles

You are invited to visit the Carnation Company booth, No. 35, where you will see an attractive display presenting some interesting information on the various uses of Carnation Vitamin D Evaporated Milk for infant feeding, child feeding, and general diet purposes. The method by which Carnation Milk is generously fortified with Vitamin D—400 U.S.P. units per reconstituted quart—will be explained. Valuable literature will also be available for distribution.

CIBA PHARMACEUTICAL PRODUCTS, Inc.
Summit, New Jersey Booth No. 13

Ciba Pharmaceutical Products, Inc., Booth No. 13, invites you to visit its exhibit which will feature Pyribenzamine in the treatment of drug dermatoses, showing the action of this effective antihistaminic when absorbed through damaged skin and by oral administration.

Representatives in attendance will be glad to answer questions about Pyribenzamine and other Ciba products used in dermatology.

THE COCA-COLA COMPANY Booth No. 56
Los Angeles

Ice-cold Coca-Cola served through the courtesy and cooperation of the Coca-Cola Bottling Company of Los Angeles and the Coca-Cola Company.

COMMERCIAL SOLVENTS CORPORATION
New York, New York Booth No. 49

C.S.C. Pharmaceuticals will feature a number of new items in addition to its line of bacitracin and penicillin preparations. Included will be an improved lipotropic agent combining choline and inositol, a new hypertensive agent, and a diagnostic aid for determining the antibiotic of choice in the treatment of specific cases. Also on display will be new products which contain antibiotics in combination. Through synergism, a combination of antibiotics may be more effective than each antibiotic alone.

CONTINENTAL MEDICAL BUREAU, Agency

San Francisco and Los Angeles **Booth No. 77**

Continental Medical Bureau, Agency, Los Angeles, now incorporated with Pacific Coast Medical Bureau, Agency, San Francisco, will be represented in Booth 77. This bureau is California's oldest and best known medical placement agency and handles medical personnel exclusively. If you wish an associate in your practice stop by and review files on men who are available; if you wish to relocate or dispose of equipment or practice they offer prompt and confidential services. Nurses, technicians and medical secretaries available for placement. Two offices to serve you. 1406-1412 Central Tower, San Francisco 3, or 510 West Sixth Street, Los Angeles 14 (Helen Buchan, Director).

CUTTER LABORATORIES **Booth No. 45**

Berkeley

Cutter Laboratories, Berkeley, invite your comments on our complete line of pediatric immunizing agents. These pediatric products are purified in our own blood fractions laboratories. The purification method gives less reaction with higher immunity with only a 0.5-cc. dosage.

The exclusive line of Cutter human blood fractions includes Albumin, Immune Serum Globulin, Hypertussis and Plasma, all of which will be shown.

We invite your comments on the new all-plastic expendable blood administration sets which were designed for positive pressure.

G. DANZ & SONS **Booth No. 67**

San Francisco

You are cordially invited to visit our booth and see our display of ophthalmic prosthetics, ophthalmic implants and corneal contact lenses.

DESITIN CHEMICAL CO. **Booth No. 88**

Providence, Rhode Island

Desitin Ointment, the pioneer in external cod liver oil therapy, combines crude high potency Norwegian cod liver oil, zinc oxide, and talcum in a modified lanolin petrolatum base. Owing to its content of high natural vitamin A and D concentration and unsaturated fatty acids, Desitin Ointment alleviates pain and relieves itching promptly. It promotes granulation and epithelization. Desitin Ointment is not liquefied at body temperature nor decomposed by secretions. Desitin Ointment forms a perfect protection for the skin. Indications: Postoperative dressings, slow-healing wounds, indolent chronic varicose ulcers, burns of all degrees, lacerations, bed sores, hemorrhoids and fissures.

Desitin Powder, a unique, dainty medicinal toilet powder, contains crude cod liver oil, zinc oxide, magnesium oxide and talcum. Uses: As of Desitin Ointment.

DEVEREUX RANCH SCHOOL **Booth No. 48**

Santa Barbara

Devereux Schools provide the physician with facilities for the education and treatment of children having academic or emotional difficulties. Twelve Devereux Schools in Pennsylvania, as well as the Devereux Ranch School in California, offer a controlled environment and modern training shaped to the needs of each child. At Santa Barbara, the 350-acre ranch school bordering on the Pacific Ocean has an enrollment of 70 children. In Pennsylvania, there are facilities for over 400 students. Representatives at the booth will gladly answer questions or discuss how Devereux may serve you and your patients.

THE DIETENE COMPANY **Booth No. 12**

Minneapolis, Minnesota

Visit our exhibit and examine the Free Diet Service for physicians. The diets are nutritionally well-balanced, easy to follow and made to appear as if they were typed in your office.

Meritene, the economical and palatable whole protein supplement, and Dietene, the "Council-Accepted" reducing supplement, will be on display.

DOHO CHEMICAL CORPORATION

New York, New York **Booth No. 80**

The Doho Chemical Corporation and its subsidiary, Mallon Chemical Corporation, makers of Auralgan, Rectalgan and O-Tos-Mo-San, are proud to announce their new nasal decongestant, Rhinalgan—a balanced formulation of two active chemical compounds that gives prolonged vasoconstriction—used as a spray, in our patented Dohony Spray-O-Mizer (combination dropper and spray), pleasant tasting, with no systemic effect (pressor or respiratory) and can be safely used for infants and children.

Our representatives will be happy to explain the merits of Rhinalgan and distribute samples of this innovation.

EATON LABORATORIES, Inc. **Booth No. 11**

Norwich, New York

For rapid control of tinea capitis and other dermatomycoses: the new Furaspor Cream: fungicidal-sporicidal-bactericidal.

For more efficient control of bacterial surface infections, Furacin is now available as Furacin Soluble Dressing, Furacin Solution, Furacin Anhydrous Ear Solution, Furacin Vaginal Suppositories and Furacin Ophthalmic Liquid and Ointment.

For efficient control of gastric acidity: Aspogen, the basic aluminum salt of an amino acid.

For efficient control of conception when pregnancy is contraindicated: Lorophyn suppositories and jelly.

For systemic sulfonamide therapy: Tripazine, a triple sulpha' tablet sine sulfathiazole.

For control of scabies and pediculosis with one application: Paracin Liquid and Ointment.

ENDO PRODUCTS, Inc. **Booth No. 54**

Richmond Hill, New York

Our representatives will be happy to discuss with you, Hycodan, the preferred anti-tussive, Norodin, Mesopin and other Council-Accepted products. We will also have available, information on Nucodan and Percodan, the new analgesic drugs developed by Endo Research Laboratories.

C. B. FLEET COMPANY, Inc. **Booth No. 26**

Lynchburg, Virginia

C. B. Fleet Company, Inc., cordially invites you to stop at Booth 26 to see the exhibit of Phospho-Soda (Fleet). Phospho-Soda (Fleet) is a solution containing in each 100 cc. sodium biphosphate 48 gm. and sodium phosphate 18 gm.

Phospho-Soda (Fleet) over the years has won discriminating preference by thousands of physicians—because of its controlled action—its freedom from undesirable side-effect, and its ease of administration.

There is only One Phospho-Soda (Fleet).

ROLAND J. GAUPEL COMPANY

Los Angeles **Booth No. 75**

The Roland J. Gaupel Company will have on display some of its newest products made in California. Among items exhibited will be x-ray accessories, featuring view boxes, cassette holders, calipers, hanger racks, film markers, etc. We will also have treatment tables and Profex X-ray equipment, featuring the new 100-100 machine.

GENERAL ELECTRIC X-RAY CORPORATION

Milwaukee, Wisconsin **Booth No. 91**

Latest type of shockproof x-ray equipment will be shown. General Electric also distributes Electric Cardioscribes, Short-Wave Diathermy; Ultra-Violet and Infra Red lamps.

GERBER PRODUCTS COMPANY
Oakland **Booth No. 21**

Announcing—Gerber's Rice Cereal. This one-grain infant cereal is particularly hypoallergenic and distinctively acceptable to young infants. It is the ideal "starting" cereal. Ask the Gerber representative for literature and samples.

OTIS E. GLIDDEN & CO., Inc. Booth No. 76
Evanston, Illinois

Presenting Zymelose Tablets—a fine new product by the makers of Zymenol. Zymelose is a special high-viscosity hydrophilic cellulose derivative with Brewers Yeast which produces bulk where bulk is needed—in the intestines only. The physician is offered his choice of effective bowel management with Zymelose (tablets) or Zymenol (emulsion). Both with Brewers Yeast—both non-habit forming.

JOHN F. GREER COMPANY Booth No. 20
Oakland

The John F. Greer Company will show the improved Greer Colostomy Compact (irrigator and pouch), as well as a new Ileostomy outfit. These appliances are the result of more than twenty years' experience in the manufacture of postoperative appliances.

HAMILTON-DAUGHERTY, Inc. Booth No. 37
Beverly Hills

Hamilton-Daugherty, Inc., devote their efforts exclusively to the design of Medical buildings. They have on display in Booth 37 innumerable photographs in color and continuous projection of color slides of exteriors and interiors of Medical buildings designed by them.

They are an authority on this subject and have an unlimited source of information for those interested. Their knowledge of the Doctor's requirements, and experience in this field can be of unprecedented value to you when you contemplate a new office or building. Your office is your daytime home. It should reflect your personality—be cheerful, restful, and efficient.

THE HARROWER LABORATORY, Inc.
Glendale **Booth No. 69**

The Harrower Laboratory, Inc., technical exhibit will introduce two new pharmaceutical products. Samples and literature on these products will be available.

H. J. HEINZ COMPANY Booth No. 73
Pittsburgh, Pennsylvania

Stop at the Heinz exhibit for these: Nutritional Data, Nutritional Observatory. Do you need Baby Gift Folders for distribution among your patients? Have you seen the additions to Heinz Baby Food line—Strained Pears and Strained Sweet Potatoes? New Junior Foods are Pears, Pears and Pineapple, Custard Pudding, Chicken Soup, Vegetable Soup, Green Beans, and Carrots.

HOFFMANN-LA ROCHE, Inc. Booth No. 5
Nutley, New Jersey

Roche will feature GANTRISIN, the new sulfonamide which has outstanding therapeutic advantages. GANTRISIN is distinguished by comparatively high solubility even in neutral and slightly acid solutions. It is not likely to cause crystalluria and it does not require concomitant alkali therapy. GANTRISIN is highly effective in the treatment of systemic and urinary tract infections.

Why not stop at the Roche booth where members of the field staff will be in attendance to tell you more about GANTRISIN, the radically different sulfonamide.

HOLLAND-RANTOS COMPANY, Inc.
New York, New York **Booth No. 66**

Ask H-R representative (1) why it is to your advantage and that of patients to specify KOROMEX Diaphragms, Jelly and Cream for *dependable* conception control; (2) why NYLMERATE JELLY is so effective in treatment of vaginal trichomoniasis and moniliasis; (3) what other H-R products would be useful in your practice.

LANTEEN MEDICAL LABORATORIES, Inc.
Evanston, Illinois **Booth No. 68**

Lanteen Medical Laboratories, Inc., cordially invite you to visit their booth. Our representatives will be happy to discuss the latest developments in diaphragm fitting technique embodying the Lanteen Flat Spring Diaphragm. Also on display for discussion will be ALKAGEL and PROCARMIN, as well as other well-known Lanteen products.

LEDERLE LABORATORIES Booth No. 18
New York, New York

You are cordially invited to visit our exhibit in Booth 18, where you will find representatives who are prepared to give you the latest information on Lederle products.

LIBBY, McNEILL & LIBBY Booth No. 79
Chicago, Illinois

Libby, McNeill & Libby welcomes the opportunity to participate in the 1951 California Medical Association convention. Trained representatives will be available to discuss the merits of Libby's Homogenized Baby Foods which are so ideal for baby's first solid foods.

THE LIEBEL-FLARSHEIM COMPANY
Cincinnati, Ohio **Booth No. 46**

Visit Booth 46: There you will see the Famous Liebel-Flarsheim FCC-Approved Short Wave Diathermy and the new Improved Electrosurgical Units. Trained representatives to serve you and explain the many advantages of Liebel-Flarsheim equipment; a leader in its field for many years. We look forward to your visiting our booth.

ELI LILLY AND COMPANY Booth No. 40
Indianapolis, Indiana

Your Lilly medical service representative cordially invites you to visit the Lilly exhibit located in Booth 40. Many new therapeutic developments will be featured and literature on these products will be available. Visiting physicians will be aided in every way possible.

J. B. LIPPINCOTT COMPANY Booth No. 51
Philadelphia, Pennsylvania

J. B. Lippincott Company presents an interesting and active exhibit of professional publishing. With the "pulse of practice" centering in an advisory editorial board of active clinicians who constantly review the field, current and coming trends in medicine and surgery are known continually. On the studied recommendations of these medical leaders, Lippincott Selected Professional Books are undertaken.

LOV-Ē BRASSIERE COMPANY Booth No. 7
Hollywood

We invite you to inspect our highly specialized line of therapeutic breast supports which enable the physician to prescribe remedial support for specific breast conditions. Each LOV-E brassiere is custom-fitted inch-by-inch to your patient's personal measurements—and in exact accordance with your instructions. Special brassieres for prenatal, postpartum, atrophic, hypertrophic and mastectomy. LOV-E Corrective Brassieres are available in leading department stores and corset shops throughout the West. Our representative will be very happy to answer any questions.

M & R DIETETIC LABORATORIES, Inc.
Columbus, Ohio **Booth No. 32**

Our representatives for Similac and Cerevim will appreciate the opportunity to discuss with you the merits and use of our products in the field of infant and child nutrition.

MARLYN COMPANY, Inc. **Booth No. 52**
Los Angeles

Marlyn Company, Inc. will feature Test-Estrin, a combination of male and female hormones in physiologic ratio. A staff of representatives will be on hand at all times, and we cordially invite you to visit our booth.

THE S. E. MASSENGILL COMPANY
Bristol, Tennessee **Booth No. 28**

Featuring A.M.A. Council-accepted products. Our exhibit will emphasize multiple sulfonamide therapy in combination with penicillin.

McNEIL LABORATORIES, Inc. **Booth No. 47**
Philadelphia, Pennsylvania

McNeil Laboratories, Inc. will exhibit in Booth 47 pharmaceutical specialties of interest to the physician. Mr. David H. Heaton will be in charge. Please stop by and meet our representatives.

MEAD JOHNSON & COMPANY **Booth No. 34**
Evansville, Indiana

Dextri-Maltose, Oleum Percomorphum, Pablum, Pabena, Olac and other Mead Products used in Infant Nutrition will be on display at the Mead Johnson Exhibit at your California Medical Association meeting. Protenum, a new high protein product, will be displayed. Also, Lonalac, for low sodium diets. Our representatives at the exhibit will be glad to discuss with you the new improvements of Amigen and Amisets.

MEDCO PRODUCTS CO. **Booth No. 85**
Tulsa, Oklahoma

Medcotronic Stimulator, low-volt generator, will be on display. Indicated for Supplemental Rehabilitation of chronic and acute cases of myositis, neuritis, fibrositis, low back pains, bursitis, muscular dystrophies, peripheral vascular disorders, paralysis, rheumatism and arthritis.

THE MEDICAL PROTECTIVE COMPANY
Fort Wayne, Indiana **Booth No. 55**

The Medical Protective Company's representative, trained in Professional Liability Underwriting, invites you to visit our Booth 55. He is entirely familiar with the principles of the reciprocal rights and duties of a doctor and patient and with the circumstances peculiar to that relationship. He will be glad to explain how his Company meets the exacting requirements of adequate liability protection which are peculiar to the Professional Liability Field.

MERCK & CO., Inc. **Booth No. 29**
Rahway, New Jersey

Merck & Co., Inc. features CORTONE-Acetate (Cortisone Acetate MERCK). Among the conditions in which CORTONE has produced striking clinical improvement are: Rheumatoid Arthritis and related rheumatic diseases; acute rheumatic fever; bronchial asthma; eye diseases including nonspecific iritis, iridocyclitis, uveitis, and sympathetic ophthalmia; skin diseases, notably pemphigus, angioneurotic edema, atropic dermatitis, and exfoliative dermatitis, including cases secondary to drug reactions.

THE WM. S. MERRELL CO. **Booth No. 4**
Cincinnati, Ohio

Bentyl hydrochloride, a high-milligram-potency non-narcotic antispasmodic with twofold musculotropic and neurotropic action, will be featured at our booth. Bentyl is effective therapeutically without central nervous stimulation or atropine-like side effects.

THE C. V. MOSBY COMPANY **Booth No. 22**
San Francisco

Many new books and new editions will be at the Mosby Company booth for you to look over at your leisure.

NATIONAL DRUG COMPANY **Booth No. 65**
New York, New York

THE NESTLE COMPANY, Inc. **Booth No. 10**
Colorado Springs, Colorado

For your relaxation, the Nestle Company cordially invites you to enjoy a delicious, hot cup of Nescafe. And, for your information, specially qualified representatives will be on hand to answer your questions on any of Nestle's milk products—already best known and most used for babies 'round the world.

THE NETTLESHIP COMPANY **Booth No. 94**
Los Angeles

Information on insurance problems of the doctor will be available to attending physicians. The Nettleship Company has specialized in the field of the professional man for 25 years, presently administering the official malpractice insurance programs of six county medical associations. It likewise serves nine professional organizations as administrators of their Group Accident and Sickness insurance programs. Many members of the profession have found it desirable to avail themselves of the services of the general insurance and life insurance departments of The Nettleship Company, due to the specialized attention given to the doctor's insurance needs.

ORTHO PHARMACEUTICAL CORPORATION
Raritan, New Jersey **Booth No. 9**

Ortho cordially invites you to visit Booth 9. Featured will be the ORTHO KIT, a new, convenient, and complete kit containing the requisites for conception control in a beautiful woven plastic zippered purse. New products displayed will include DIFFUSIN (hyaluronidase), MASSE Nipple Cream, and other new gynecic pharmaceuticals.

PACIFIC COAST MEDICAL BUREAU, Agency
San Francisco and Los Angeles **Booth No. 77**

PACIFIC COAST MEDICAL BUREAU, Agency, San Francisco, now incorporated with CONTINENTAL MEDICAL BUREAU Agency, Los Angeles, will be represented in Booth 77. This bureau is California's oldest and best known medical placement agency and handles medical personnel exclusively. If you wish an associate in your practice stop by and review files on men who are available; if you wish to relocate or dispose of equipment or practice they offer prompt and confidential services. Nurses, technicians and medical secretaries available for placement. Two offices to serve you. 1406-1412 Central Tower, San Francisco 3, or 510 West Sixth Street, Los Angeles 14 (Helen Buchan, Director).

PARKE, DAVIS & COMPANY **Booth No. 50**
Detroit, Michigan

Medical Service Members of the PARKE, DAVIS & COMPANY Staff will be in daily attendance at our commercial exhibit for consultation and discussion of the various products listed in our Pharmaceutic, Antibiotic, and Biologic Catalog. Important Specialties, such as Chloromycetin, Peni-

cillin S-R, Benadryl, Vitamins, Oxycel, Thrombin Topical, Influenza Virus Vaccine, and others will be featured. You are most cordially invited to visit our exhibit with the assurance that your personal interest will indeed be very much appreciated.

PELTON & CRANE COMPANY — Booth No. 43
Detroit, Michigan

Pelton and Crane will exhibit in Booth 43 their latest sterilizers. They will have on display their large autoclaves and cabinet sterilizers. Competent representatives will gladly assist you in selecting the proper equipment for your office or hospital.

PET MILK COMPANY — Booths Nos. 38 and 39
San Francisco

You are invited to visit our Booths 38 and 39 in which we will display a Pet Milk plant in working miniature. This miniature plant has been displayed at many of the large medical meetings held throughout the United States. Competent men will be on hand to explain the processing of Pet Milk and many of our services to the physician will be available. Each person visiting our booths will receive a miniature Pet Milk can.

PHILIP MORRIS & COMPANY Ltd., Inc.
New York, New York — **Booth No. 63**

Philip Morris and Company will show the results of research on the irritant effects of cigarette smoke. These results show conclusively that Philip Morris are less irritating than other cigarettes. An interesting demonstration will be made on smokers at the exhibit which will show the difference in cigarettes.

PICKER X-RAY — Booth No. 8
Los Angeles

Displayed will be the new Constellation tilt table with motor-driven spot film device. The Picker all-electronic 500 MA generator complete with all photo-timing attachments will be demonstrated.

RICHARDS MANUFACTURING COMPANY
Memphis, Tennessee — **Booth No. 71**

Keeping in mind the fact that the Orthopedist and General Surgeon is at all times on the alert to find the most practical and efficient means of aiding him mechanically, we have, with the aid of many of these eminent men, devised, created and perfected a number of appliances which are in wide use today throughout the entire world.

We are at all times improving and perfecting new appliances and equipment.

In ordering equipment and supplies from Richards Manufacturing Co., you are assured of unexcelled craftsmanship and dependable service.

RIKER LABORATORIES, Inc. — Booth No. 83
Los Angeles

The Riker Laboratories exhibit will feature Veriloid, a product of Riker research. Veriloid represents a potent alkaloidal fraction from Veratrum viride, biologically standardized for hypotensive activity in mammals. Veriloid represents a new active principle, not heretofore available, and useful in the treatment of all forms of hypertension.

A. H. ROBINS COMPANY, Inc. — Booth No. 57
Richmond, Virginia

The A. H. Robins Company display is featuring the sedative-antispasmodic, DONNATAL; the antirheumatic, PABALATE; ENTOZYME, digestant with the unique "peptomatic" action; ALLBEE WITH C, our high-potency "B" complex with ascorbic acid; and PHENAPHEN WITH CODEINE, our new analgesic. Robins Medical Service Representatives will welcome the privilege of discussing with physicians attending the meeting these and other products in the company's line of prescription specialties.

J. B. ROERIG & COMPANY — Booth No. 74
Chicago, Illinois

J. B. Roerig & Company will display their newest preparation, Am Plus, for treatment of obesity, and Viterra capsules, a complete nutritional supplement offering nine vitamins in combination with twelve minerals and trace elements. You are cordially invited to drop by and discuss your problems with our trained representatives.

SANBORN COMPANY — Booth No. 61
Cambridge, Massachusetts

Visitors at the Sanborn Company booth, No. 61, will have the opportunity for acquaintance with the "Viso family" of direct-writing recorders for diagnosis, teaching, and research: the famous Viso-Cardiette, leader among direct-writing electrocardiographs; the Viso Recorder, for single channel recording without electrocardiography; and the Twin and Poly-Visos, for two- and four-channel recording of a wide variety of biophysical phenomena.

Also on display will be such useful supplementary instruments as the Sanborn Electromanometer and Ballistocardiograph; and attachments for registration of heart sounds (for timing), pulse waves, and pneumograms.

For the clinician interested in metabolism testing, the display will also feature the Sanborn Metabulator, with its revolutionary "all enclosed" design and "table-top" operation.

SANDOZ PHARMACEUTICALS — Booth No. 87
San Francisco

This display will feature Cafergot (Cafergone), for the oral treatment of migraine and other types of headache; DHE-45 (Dihydroergotamine) for the parenteral treatment of migraine; Mesantoin and Hydantal for the treatment of epilepsy; Methergine, an oxytocic; and several cardiac glycosides including Cedilanid, Digilanid and Strophosid.

Well informed attendants will be present to answer all inquiries and to discuss new products to be released in the near future.

W. B. SAUNDERS COMPANY — Booth No. 1
Philadelphia, Pennsylvania

We invite all doctors attending the meeting of the California Medical Association to visit our exhibit where Mr. J. Keith Chrysler will display a complete line of our books including Hyman's *Integrated Practice of Medicine*, Hyman's (new) *Progress Volume*, Bockus' *Postgraduate Gastro-enterology*, Conn's *1951 Current Therapy*, Sodeman's *Pathologic Physiology*, Anson's *Atlas of Human Anatomy*, Shanks' *Textbook of X-ray Diagnosis*, Colonna's *Regional Orthopedic Surgery*, Jackson's *Bronchoesophagology*, Sunderman and Boerner's *Normal Values in Clinical Medicine*, Hollinshead's *Functional Anatomy of the Limbs and Back*, Sweet's *Thoracic Surgery*, Smith's *Plastic and Reconstructive Surgery*, Moore's (new second edition) *Textbook of Pathology*, Major's (new fourth edition) *Physical Diagnosis*, Levine's (new fourth edition) *Clinical Heart Disease*, and many other new books and new editions.

R. L. SCHERER COMPANY — Booth No. 44
Los Angeles

The R. L. Scherer Company will feature in their exhibit the latest in x-ray equipment as manufactured by the F. Mattern Mfg. Co. In addition to the x-ray many new items of interest to the medical profession will be shown, among them being an Electrocardiograph, short wave Diathermy, and Photoelectric Colorimeter.

The R. L. Scherer Company extends a cordial invitation to the members of the California Medical Association and their guests to visit their booth.

SCHERING CORPORATION — Booth No. 15
Bloomfield, New Jersey

Sulamyd (Sulfacetimide Schering) will be featured at the exhibit. From a pharmacological and toxicological standpoint, Sulamyd deserves preference over other sulfonamides now in use for the treatment of infections of the urinary tract.

Trimeton and *Chlor-Trimeton*, two outstanding antihistamines, and *Coricidin*, Schering's new treatment for the common cold, containing Chlor-Trimeton, aspirin, phenacetin, and caffeine, will highlight the exhibit.

Schering Representatives will be present to welcome you, and will be happy to answer inquiries concerning Schering's new products as well as hormone, x-ray diagnostic, chemotherapeutic, and pharmaceutical specialties.

JULIUS SCHMID, Inc. — Booth No. 95
New York, New York

Ramses Vaginal Jelly will be featured in demonstrations by representatives. Also will be shown the Ramses Physician's Prescription Packet No. 701, Tuk-A-Way Kit.

G. D. SEARLE & CO. — Booth No. 36
Chicago, Illinois

You are cordially invited to visit the Searle booth where our representatives will be happy to answer any questions regarding Searle Products of Research.

Featured will be Banthine, the true anticholinergic drug for the treatment of Peptic Ulcers; Dramamine, for the prevention and active treatment of motion sickness; and Alidase, Searle brand of hyaluronidase which permits subcutaneous feedings at intravenous speed.

Other time-proven products of Searle Research on which information may be obtained are Searle Aminophyllin in all dosage forms, Metamucil, Ketochol, Floraquin, Kiophyllin, Diodoquin, Pavatrine, and Pavatrine with Phenobarbital.

SHARP & DOHME, Incorporated — Booth No. 33
Philadelphia, Pennsylvania

Clinical data from the laboratories of the Medical Research Division of Sharp & Dohme are featured in Booth 33. The potentiating effect of a combination of the antibiotics, bacitracin and tyrothricin; the synergistic effect of penicillin in conjunction with the sulfonamides; and the use of Blood Group Specific Substances A and B in conditioning Group O blood, are of major interest.

THE SMITH-DORSEY COMPANY — Booth No. 62
Lincoln, Nebraska

Smith-Dorsey is featuring: Doraxamin, an improved treatment for Peptic Ulcer; Dorantamin, a well-tolerated antihistaminic; Dorsaphyllin, a buffered Aminophylline possessing better gastric tolerance, and many Council-Accepted injectables. You are cordially invited to make the Smith-Dorsey booth your headquarters.

SMITH, KLINE & FRENCH LABORATORIES
Philadelphia, Pennsylvania — **Booth No. 19**

'Resodec'—'Resodec' is a revolutionary new development in the management of congestive heart failure. This remarkable substance produces the effect of cutting the patient's salt intake approximately in half. It does this by removing sodium from the contents of the intestinal tract and carrying it out of the body in the feces.

Thus, 'Resodec' not only gives you a positive means of achieving *adequate* sodium control—but also frequently allows your patients greater leeway in selecting foods.

E. R. SQUIBB & SONS — Booth No. 53
New York, New York

E. R. Squibb & Sons look forward to seeing you at the California Medical Association meeting.

In support of the active scientific program which has been arranged you will find the Squibb representative glad to discuss all relative products. Also, for your convenience, selected professional literature will be available which you may take or request us to mail to your home.

Please visit the Squibb booth.

J. W. STACEY, Inc. — Booth No. 90
San Francisco

Stacey's, established over a quarter of a century ago by members of the medical profession, provides the doctor in the West with an efficient source for all medical books of all publishers.

At Booth 90 you will find displayed the latest books on medicine, surgery and the specialties. You are cordially invited to browse at your leisure.

STAYNER CORPORATION — Booth No. 84
Berkeley

We will feature newest development in barbiturate *withdrawal* therapy—two capsules identical in all physical appearances, size, shape and color, to two widely prescribed capsules which contain 1½ grains of barbiturates. Stayner will also feature their specially developed water soluble "D.A.S." (Dextro-Amphetamine Sulfate) 5 mg. tablets which dissolve in less than a minute. Several other of the 125 pharmaceutical and vitamin products manufactured will also be featured.

THE STUART COMPANY — Booth No. 92
Pasadena

The Stuart Company offers nutritional products (liquid, tablet and capsule multivitamins; liquid and tablet hematinics; amino acids, tablet and powder form) supplemental and therapeutic. These can help simplify nutritional prescriptions—simply remember the name Stuart and the therapy needed.

UNITED LABORATORIES, Ltd. — Booth No. 72
Pasadena

United Laboratories feature the results of clinical investigations on Actrope (ACTH) in varied disease conditions, including rheumatic fever, rheumatoid arthritis, lupus erythematosus, hypersensitivities, acute inflammatory diseases of the eye and skin, etc.

Other United specialties displayed include Lipo-B, Tropit (pituitary gonadotropins), Barbeloid and other outstanding prescription products.

A hearty welcome is issued to all members of the California Medical Association to visit the United exhibit.

U. S. VITAMIN CORPORATION — Booth No. 23
New York, New York

See and taste for yourself the new and different sodium-free salt substitute—Co-Salt—which actually tastes like salt, looks like salt and sprinkles like salt—a great boon to your patients on restricted sodium intake.

Oil-in-water display demonstrates water solutions of oil-soluble vitamins, as exemplified by Aquasol Vitamin A Drops—first and only aqueous vitamin A preparation accepted by the Council on Pharmacy and Chemistry of the A.M.A.

VAISEY-BRISTOL SHOE CO., Inc. — Booth No. 70
Rochester, New York

We will have on display in our booth a variety of styles of our Jumping Jack shoes. Stop in and discuss with our representatives your problems for the child from six months to four years.

VARICK PHARMACAL CO., Inc. **Booth No. 6**
New York, New York

Digitaline Nativelle, chief active principle of digitalis purpurea, is featured in a comprehensive exhibit of the Varick Pharmacal Company of New York. This world-renowned cardiotonic—the first of the digitoxins—has become especially favored because of its more complete absorption and its uniform rate of dissipation which enable it to maintain the maximum efficiency obtainable.

Shown in conjunction with the above is the new sodium- and lithium-free salt substitute, Diasal, which so remarkably duplicates the taste and texture of salt. Diasal, for patients on low-sodium diets, helps restore flavor to bland, saltless foods and keeps dieters on their diets.

WALKER VITAMIN PRODUCTS, Inc.
Mount Vernon, New York **Booth No. 58**

MENSALIN will be featured at the Walker exhibit. This new product, consisting of pyranisamine bromotheophyllinate, 50 mg. per tablet, is used in relieving premenstrual tension. By reducing the natural molimina, the distressing symptoms of nervous tension, breast tenderness, abdominal distention and pain are alleviated or precluded.

WALTERS SURGICAL COMPANY **Booth No. 43**
Los Angeles

We will show the latest H. G. Fischer Spacesaver X-ray, their FCC-approved Diathermy, and the Electro Physical Laboratories' electrocardiograph, the Cardiatron. Also a new style cabinet sterilizer by Pelton & Crane with their LV Autoclave, Combination Autoclave and Sterilizer combination No. 61 THP, and the E & O Light.

WESTWOOD PHARMACEUTICALS
Buffalo, New York **Booth No. 25**

Through its West Coast agents, Obergfel Brothers, Westwood will welcome inquiries about Westhiazole, Gentia-Jel and Lowila. May we demonstrate the convenience of the single dose, disposable applicator method of gentian violet treatment in the vaginal moniliases? Now the patient can apply gentian violet at home with a minimum of messiness.

WHITE LABORATORIES, Inc. **Booth No. 32**
Newark, New Jersey

On display will be Mol-Iron—clinically proved the most effective iron therapy known—available tablets and liquid. Courteous Medical Service Representatives in attendance will be happy to answer all questions and inquiries.

WINTHROP-STEARNS, Inc. **Booth No. 86**
New York, New York

Winthrop-Stearns, Inc., New York, extends a cordial invitation to visit Booth 86, where representatives will be on hand to discuss the latest pharmaceutical preparations made by this firm. Featured will be THENFADIL, a new and better antihistaminic which is exceptionally effective in bronchial asthma (82 per cent) as well as other common allergic disorders; SULFAMYLON, new sulfonamide for topical use with wide antibacterial range (including anaerobes, gas gangrene); not inhibited by pus. Available as 1 per cent solution, and as 5 per cent solution in combination with Streptomycin (20,000 units); MILIBIS, new, virtually non-toxic amebacide; ARALEN, the modern colorless antimalarial specific.

WYETH, Incorporated **Booth No. 82**
Philadelphia, Pennsylvania

Wyeth, Incorporated, will feature SMA, the "proven prototype" of prepared infant food formulas. Trained representatives will be pleased to discuss the flexibility of SMA—permits the creation of the most precise, individualized formulas. To be co-featured with SMA is the TUBEX System of convenient, safe, ready-to-use injectables. This unique system makes available for immediate, sterile injection diagnostic and therapeutic allergen preparations, hormones, tetanus antitoxin, various forms and concentrations of penicillin in both oil and aqueous suspensions and dihydrostreptomycin—all in TUBEX. Representatives will be present to discuss these and other Wyeth products. Samples and literature will also be available.

PRE-CONVENTION REPORTS

Officers - Councilors - Committees - County Societies

REPORTS OF GENERAL OFFICERS

REPORT OF THE PRESIDENT

To the Members of the California Medical Association and the House of Delegates:

Your President has been very active in our campaign to reach the grass roots Doctors in the state in a program of education. We have attended many county meetings and it has been exceedingly refreshing to find that your President has received such courtesy, deference, and such good attendance both from the county medical societies and from the county medical woman's auxiliaries.

I am sure that our efforts have been reflected in the welcome news that we got from the election last November.

The California Medical Association has become an aggressive, intelligent, powerful group engaged in spreading information relative to public health and personal health problems. In fact, the California Medical Association is accepted as one of the leading progressive medical societies of all the states.

It has been a great pleasure and honor to have served as President, and I am sure that all will realize that the President himself is a very small cog in the machinery of the administration of your affairs. The greatest credit should be given to the Council, the Executive Committee of the Council, the various standing committees of the California Medical Association, and to the House of Delegates itself for the responsibility of producing the progressive leadership that California has attained.

I have attended all of the Council meetings, all of the Executive Committee meetings, except those in which I was away on either A.M.A. business or other excusable absences. The cooperation of all of the California medical societies has been better than excellent. We can look forward to continuing years of successful leadership as long as we have the type of Doctors serving on our councils and committees as we have in the present.

Respectfully submitted,

DONALD CASS, *President*

REPORT OF THE PRESIDENT-ELECT

To the President and the House of Delegates:

Your President-elect has assisted the President in carrying out the functions of his office.

In association with Mr. John Hunton, Executive Secretary of the C.M.A., meetings were held with 25 county medical associations in Northern California. At some of these, Mr. Ben Read, executive secretary of the Public Health League of California, participated. The importance of the individual doctor-patient relationship as part of medical public relations was stressed. The attendance at these meetings and interest shown in the C.M.A. was excellent. The high regard for our Executive Secretary and Mr. Ben Read was noted with great satisfaction.

Meetings were held with several woman's auxiliaries to county medical associations, and with the officers of the Woman's Auxiliary to the C.M.A. The effort put forth and the intense interest shown by these groups in Association affairs was truly remarkable. We can be proud of our woman's auxiliaries.

All the meetings of the Council were attended and an active part was taken on various committees of the Council.

The hospitable and kindly reception given by county medical associations and woman's auxiliaries was greatly appreciated and is hereby warmly acknowledged.

Respectfully submitted,

H. GORDON MACLEAN, *President-Elect*

REPORT OF THE SPEAKER OF THE HOUSE OF DELEGATES

To the President and the House of Delegates:

"Security is a transient state of relative safety, an alert maneuver in a constantly moving area of danger.

"It is not an ultimate destination where all is serene. It can be seized and held from one fleeting moment to the next only by constant application of imaginative skills."—Mayo Shattuck.

While this quotation is taken from an address by Mayo Shattuck, a distinguished attorney and authority on estate planning, before the Mid-winter Trust Conference, urging mobility and flexibility in trust agreements, the basic ideas expressed seem particularly applicable to the activities of the House of Delegates and of those to whom it delegates authority to act on its behalf.

The House of Delegates is the policy-making body of the California Medical Association. As such, its interests are broad and comprehensive, involving as they do an insistence upon a constant elevation of the scientific standards of medical care, a consideration of the manner in which that care is rendered, of those who render it, and of their contacts with each other and with those who participate in any manner in the attack upon ill health and its physical and economic consequences, as well as an intelligent and discerning regard for the milieu in which medicine and its ancillary sciences are practiced.

An important function of any professional organization is the protection of its members in the pursuit of their calling so long as that pursuit does not impinge upon the public interest. The House of Delegates has demonstrated an awareness of changing concepts in the practice of medicine and in the public attitude toward it, and an ability to devise new methods in keeping with modern ideas but at the same time conserving fundamental principles established by past experience. This has been well evidenced in the organization of California Physicians' Service and the careful supervision of that plan by the members of the House of Delegates acting in their alter ego as the administrative members of California Physicians' Service. At the San Diego session, a special liaison committee of the Association was created by order of the House in order to work more closely with Cali-

fornia Physicians' Service and to reflect in the activities of that organization more accurately the wishes of every member of the California Medical Association.

Between sessions of the House of Delegates, the Council, and in turn the Executive Committee are directed by the House to perform certain functions for it, always subject to review by the parent body. Special committees of the House and of the Council are authorized with specific functions to perform as the need arises, and these in turn bring to the deliberations of the parent body the best of the Association's talent and contribute the essential information upon which to base decisions.

Every action by the House of Delegates, the Council, or the Executive Committee, dealing in any manner with the law of the state or the nation is referred to legal counsel for study and advice.

Organized Medicine, like any other structure, is in constant need of new blood, new energy, and new ideas. There is a place in its many phases for every Association member who is genuinely interested in the broad economic, political, and social welfare of his profession, and who is willing to devote a considerable portion of his time and energy in its service. If the actions of your House of Delegates do not always meet with your approval, let every member of the Association realize that these result only after a most thorough consideration by committees and upon unlimited debate before the House. Every member of the Association is urged to attend meetings of the House of Delegates and to present his ideas on resolutions under consideration by the reference committees.

"Security is but an illusion; repose is not the destiny of man."—Oliver Wendell Holmes.

Respectfully submitted,

L. A. Alesen, *Speaker*

REPORT OF THE VICE-SPEAKER

To the President and the House of Delegates:

The Vice-Speaker has attended the meetings of the Council and has carried out such assignments as have been delegated by the Council and its officers.

Respectfully submitted,

Donald A. Charnock, *Vice-Speaker*

REPORT OF THE CHAIRMAN OF THE COUNCIL

To the President and the House of Delegates:

During the current year the Council has met regularly as reported in California Medicine. A perusal of the minutes has acquainted most of you with the problems which have arisen during the course of the year and with the efforts of the Council to find the proper solution.

You will note that as a rule mornings have been devoted to committee reports and business of a routine nature, the lunch period to hearing representatives of business and other groups who wished to appear before the Council, and afternoons to the consideration of new problems which have claimed the attention of the Council. While it has not been possible to follow this schedule completely, it is the overall pattern which has been followed in the current year.

Everyone who wished to appear at a Council meeting has been permitted to do so. Dr. Halverson or one of his representatives has again appeared regularly to continue the productive liaison which has been developed with the State Department of Public Health. Both the Council members and the official personnel of the various county medical societies have been regular in attendance.

Dr. Murray, chairman of the Legislative Committee, Mr. Hassard, our attorney, and Mr. Ben Read and John Hunton have been invaluable to the Council. I am sure they understand that their efforts have been appreciated.

Respectfully submitted,

Sidney J. Shipman,
Chairman of the Council

REPORT OF THE VICE-CHAIRMAN OF THE COUNCIL

To the President and the House of Delegates:

As Vice-Chairman of the Council I have attended all the meetings of the Council, and have aided the Chairman whenever any assistance was requested.

Respectfully submitted,

Donald D. Lum,
Vice-Chairman of the Council

Report of the Council

To the President and the House of Delegates:

The Council of the California Medical Association has held five meetings since the close of the 1950 Annual Session. These were held on May 3, May 27, September 9 and November 5, 1950, and January 27 and 28, 1951. An additional meeting will be scheduled prior to the convening of the 1951 Annual Session.

In addition, the Executive Committee has held four meetings in this same period and its deliberations have been reviewed by the Council and printed as a part of the Council minutes in the next available issue of the Journal.

The policy of alternating Council meetings between San Francisco and Los Angeles has been continued, for the convenience of all concerned.

The Council herewith presents a digest of some of its more important items of consideration during the past year.

1. *Organization:*

Attention is called to the reports of the Secretary, Treasurer, Editor, Legal Counsel and Executive Secretary, published elsewhere in this issue. Each of these representatives has been called upon for service under the jurisdiction of the Council and has reported regularly to the Council on his activities. Each report is subject to approval, amendment, additions, deletions or corrections and the Council has reviewed each with due diligence.

2. *Membership:*

The membership of the Association at the close of 1950 totaled 10,638 active and associate members, the latter classification accounting for 142 of the total. This membership places the California Medical Association as second largest state organization in the American Medical Association, surpassed only by New York state. On the basis of this membership, the Association has been entitled to eleven Delegates in the American Medical Association and has been represented by that number in the June and December, 1950, meetings of the A.M.A. House of Delegates. Attention is called to the fact that A.M.A. representation will henceforth be based on one Delegate to each 1,000 *active, dues-paying members of the A.M.A.*, or fraction thereof. Inasmuch as about 800 members of the Association had not paid their A.M.A. dues prior to December 1, 1950, when the A.M.A. official membership count was taken, California will probably lose one A.M.A. Delegate in the 1951 A.M.A. meetings.

The delinquency of C.M.A. members in paying A.M.A. dues results primarily from delayed billing procedures used in some county medical societies in the state, which billed

their members for A.M.A. dues only after they had paid their county and state dues. It is believed that this situation will not exist in 1951 and that this delinquency, roughly 8 per cent, will be eliminated from now on. As it is, California stands very high in the A.M.A. dues-collection list and will likely represent an even larger proportion of the A.M.A. House of Delegates in 1951 than it has heretofore.

At the close of 1950, only 147 members of the Association, or less than 1½ per cent, had failed to pay their C.M.A. dues. Most of these are members who have moved to other locations and have not notified the Association of their transfers.

3. *Special Committees:*

In addition to the standing committees of the Association, the Council has from time to time appointed special committees to handle specific problems and to serve as continuing bodies which may become expert in particular fields. Without in any way failing to recognize the work of all such committees, the Council wishes to call especial attention to the work of several of these committees, including the following:

Committee on Industrial Accident Commission: This committee has met with its own members, the members of its advisory committee of specialists and with representatives of the compensation insurance industry, in an effort to evolve a suitable schedule of fees and instructions for the proper and compensable handling of industrial injury cases. The committee has reported regularly to the Council, which is pleased to recognize here the excellent work which has already been accomplished and which is now in prospect. It is believed that much good will come from the activities of this group.

Committee on Public Health and Public Agencies: This committee has maintained a steady liaison with state and local health officers and with public groups operating in the field of the care of the public for various ailments. Through its activities it has been able to provide wise counsel to various bodies in matters pertaining to hospital construction and operation, poliomyelitis, tuberculosis, heart disease, public health and related topics. Its findings and recommendations have appeared in the printed Council minutes and have been made available to the Council regularly. The importance of this committee cannot be overemphasized.

Blood Bank Commission: As of the end of 1950, the Blood Bank Commission reports eight blood banks of the community type in operation, one more about to start and another in the planning stage. This is a long step toward fulfillment of the goal of 14 blood banks in a statewide system. The California Blood Bank Commission has received national recognition for its progressive program of establishing a statewide network of community non-profit blood banks designed to serve the civilian population of the entire state and to make their facilities available to the military forces in time of need. No other state has developed a comparable comprehensive program and the members of this commission are to be congratulated on their forward-looking activities.

During the year the Council has set aside $150,000 as a loan fund to blood banks starting up under this program, all loans to be issued without interest and to be repaid under a fiscal system acceptable to the borrowing blood bank. One capital loan to start a new blood bank has already been authorized and partially advanced, while smaller loans have been made to three blood banks for the purchase of bottles, tubing and other supplies to permit a stockpiling program for the protection of the armed forces.

Committee on Clinical Material for Teaching Hospitals: This committee has been studying the possibilities of admitting to teaching hospitals, as clinical material, selected cases where the patient is covered by some form of hospitalization insurance. It should be pointed out that the rapid spread of hospital insurance has made the acceptance of the required teaching cases much more difficult; if a program of accepting insured cases for teaching purposes can be worked out, the hospitals will gain not only the teaching material but also the financial support which many of them need as departments of medical schools. Studies by this committee are continuing and are expected to be most productive.

4. *Public Relations:*

During the past year the Council has carried out the orders of the House of Delegates in cancelling, as of the end of 1950, the radio program *California Caravan.* Decision on this step was made late in the year, at a time when both the Advisory Planning Committee and the Committee on Medical Economics were engaged in working toward a program of public relations based upon the individual physician-patient relationship. Public relations counsel are still employed on a retainer basis and the Association still has available professional talent and opinion in this important field.

5. *Public Policy and Legislation:*

In the department of public policy and legislation, the Council believes the Association is probably better represented at this than at any previous time in its history. Dr. Dwight H. Murray, legislative chairman, is ably assisted by Mr. Ben H. Read, Executive Secretary of the Public Health League of California, and Mr. Howard Hassard, legal counsel. Both of these men have done outstanding work in handling the Association's legislative affairs and the Council wishes to pay full tribute to them, as well as to Dr. Murray, for their outstanding accomplishments. The year 1951 is another legislative year and it appears at this writing that medicine faces some of the most extreme threats ever leveled at it, especially from irregular groups of practitioners. The Council realizes that it is not always possible to attain all the objectives of the profession but is confident that its legislative representatives will end the legislative session with an exceptionally high score.

6. *Antivivisection:*

During 1950 the Council approved funds to aid in opposing serious antivivisectional legislation in Los Angeles. By popular vote in November, the citizens of Los Angeles overwhelmingly approved a sound program of humane pound legislation sponsored by scientists. Mr. Ed Clancy, Field Secretary, managed the physicians' campaign in a most able manner and the thanks of the Council go to him. This recurring subject will doubtless be before either local or state voters in coming months and the experience in the Los Angeles campaign will stand the Association in good stead.

7. *Emergency Medical Service:*

The Council feels itself fortunate to have an able Committee on Emergency Medical Service working on this important topic. Recognition of the committee's work has come from the State of California, which has appointed Dr. Justin J. Stein to two important posts in the state's emergency set-up.

8. *Interns and Residents:*

During the past year the publication of the Committee on Interns and Residents has been given a new name, *Future M.D.*, and a new format and table of contents. Each bi-monthly issue is sent to all medical students, interns and residents in California and the publication has gained national recognition as a sound method of assisting young physicians in their transition from school or hospital to the realm of medical practice. The committee is deserving of full acclaim for its fine work.

9. *Student Nurse Recruitment:*

During 1950 the Council appropriated funds to assist the hospitals, nursing schools and other professional organiza-

tions in a campaign to secure greater interest in nursing schools for potential students. With a great need for nurses and with nursing school enrollments at a relatively low level, this project is considered extremely important. It is the hope of the Council that the organized effort to secure more student nurses will produce the desired result.

10. *California Physicians' Service:*

Through some duplication of membership and through open invitations for the Association and C.P.S. to be represented at each other's official meetings, a steady liaison with California Physicians' Service has been maintained. In addition, a special Council committee has recommended the appointment of a liaison committee to represent the officers of the Association, the Board of Trustees of C.P.S. and the House of Delegates. Although this committee cannot be fully activated until the next meeting of the House of Delegates, it has already been established on an informal basis and is now functioning in an unofficial manner.

11. *Legal Department:*

The Association continues to be excellently represented in legal matters by the firm of Peart, Baraty & Hassard, with Mr. Howard Hassard handling most C.M.A. matters in extremely competent fashion. Mr. Hassard is frequently called upon for services far beyond the normal role of legal counsel and is always prompt, thorough and sound in his judgments and decisions. On several occasions in the past year he has been authorized to appear for the Association in law cases involving principles of interest to the medical profession. Throughout the past year he has participated actively in the defense of one county medical society against allegations of restraint of trade in not electing to membership certain applicants whose applications did not receive favorable consideration. This case is similar to several other past and present anti-trust cases and it is hoped to have a decision on it some time this year.

12. *Medical Fees:*

The Council now has before it a proposal to enter into a scientific study of medical and surgical fees, with the thought of producing some sort of yardstick to serve as a recognized basis for establishing fees, especially in fields where governmental or other agencies are financially responsible. This proposal comes from the Committee on Industrial Accident Commission and from other sources as well, including one of the surveys made by the Committee on Medical Economics. Although no decision has been made on this subject, the Council believes it to be vitally important.

The Council recognizes the dangers, as well as the advantages, of establishing a schedule of fees and will give thorough consideration to all points of view. As a part of the over-all consideration of public relations, it appears that a proper schedule of average or minimum fees would offer a degree of consistency which would merit public approval and would furnish a uniform basis for various types of arrangements betwen the profession and public agencies.

13. *California Medicine:*

Again the Council wishes to express its warm approval of the extremely valuable handling of the official journal, California Medicine, by Editor Dwight L. Wilbur and his staff. The journal continues to occupy a high place among publications of its type and grows in national acclaim. At the same time, it provides an ideal medium for the dissemination of Association news.

14. *Additional Report:*

In its meetings prior to the 1951 Annual Session the Council may develop additional items on which a supplemental report to the House of Delegates may be based. Such addenda, if forthcoming, will be presented at the opening session of the House.

Respectfully submitted,

Sidney J. Shipman, *Chairman*

REPORT OF THE PRESIDENT OF THE TRUSTEES OF THE C.M.A.

To the President and the House of Delegates:

Serving solely as a holding company, in corporate form, for assets of the California Medical Association, the Trustees of the California Medical Association is a non-profit corporation whose members are at all times the members of the C.M.A. Council. The corporation has met in accordance with its articles of incorporation and its by-laws during the past year and its financial report is printed elsewhere in this issue under the report of the Treasurer.

Respectfully submitted,

Donald Cass, *President*

REPORT OF THE SECRETARY

To the President and the House of Delegates:

Your Secretary was appointed by the Executive Committee in August 1950 and confirmed by the Council in September. Since then he has attended the meetings of the Council and the Executive Committee.

He has presided at the meeting of the Committee on Scientific Work and at meetings of the section secretaries in arranging for the 1951 convention. In addition he has attended meetings of the Committee on Postgraduate Activities and other committees appointed by the House and Council.

The minutes of the Council meetings are prepared by the Executive Secretary, then edited by the Secretary, the Chairman of the Council and the Legal Counsel.

It is recommended that these be read in detail by all members.

Respectfully submitted,

Albert C. Daniels, *Secretary*

REPORT OF LEGAL DEPARTMENT

To the President and the House of Delegates:

The Legal Department submits the following summary covering the nature of its activities during the year 1950 and up to the time of the preparation of this report, January, 1951:

During the past year we have attended all meetings of the Council and the Executive Committee, as well as various meetings of standing committees and other agencies of the Association.

We have also prepared and submitted opinions on a wide variety of subjects, as requested by the Association or its officers or component societies, including disciplinary procedural questions, questions of interpretation of the principles of medical ethics, legal problems connected with operation of blood banks, the relationship of corporations and other lay agencies to the practice of medicine, and a number of questions arising out of pending legislation or newly enacted laws.

In addition to our advisory services, we have also undertaken, at the instance of the Council, the following:

1. *Legislation:*

We have assisted the Committee on Public Policy and Legislation throughout the year. During 1950 we have appeared before and have followed the proceedings of three

legislative interim committees: The Assembly Interim Committee on Public Health, the Senate Interim Committee on Workmen's Compensation, and the Assembly Interim Committee on Finance and Insurance. All three of these committees have investigated public problems and submitted comprehensive reports to the Legislature that affect various phases of the practice of medicine.

At the present time, we are in the process of reading and analyzing over five thousand bills introduced early in January at the 1951 Regular Session of the Legislature. We anticipate that, as usual, there will be in the neighborhood of five hundred bills that directly affect the medical profession. The job of reading over five thousand bills is one that requires endless hours; however, the most difficult part is to ascertain exactly what each bill will do with respect to changing or modifying existing law. This requires constant reference to all of the statutes and court decisions in California that relate to the subject matter of each bill.

A year ago we reported that Congress had broken out with a rash of health insurance bills of all types and classifications, and that, in addition, there were a great number of other bills proposed in Congress affecting the medical profession, including subsidies of medical schools and medical education, extension of social security, etc. The current session of Congress is equally active in the field of medical care. Since Congress convened early in January 1951, practically all of the bills that were pending before it in 1950 have been reintroduced. The desire to use federal tax funds to subsidize, and ultimately bring under centralized federal control, state and local activities of all kinds, continues unabated.

2. *Malpractice Cases:*

As amici curiae, we appeared in an extremely important malpractice case decided by the California Supreme Court in the fall of 1950. The case is *Cavero vs. Franklin Hospital*, involving the death of a young child while under a general anesthetic and during the course of a tonsillectomy. In a five to two decision, the Supreme Court held that the fact of death standing alone was sufficient to invoke the doctrine of res ipsa loquitur. In legal theory, res ipsa loquitur (the thing speaks for itself) means, as applied to a malpractice case, that the plaintiff need only prove the happening of the event and that the case may ultimately be submitted to the jury without any expert testimony on behalf of the plaintiff tending to prove the defendant physician negligent. In practical application, res ipsa loquitur means that the defendant physician has the burden of establishing by expert testimony that he was not negligent; hence res ipsa loquitur reverses the ordinary conception that the plaintiff must prove his case by a preponderance of the evidence. Carelessly used or extended beyond its original concept, it can convert physicians and surgeons into guarantors of the results of their services, and have the inevitable effect of requiring all physicians and surgeons to take no action when there is any possible risk involved, to the irreparable injury of the public. Hence, any extension of the doctrine of res ipsa loquitur is of tremendous public as well as professional interest.

Prior to the Cavero case, we were of the opinion that the mere fact of death under circumstances that rarely result in death, was not sufficient to put the burden of proof on the attending physician or operating surgeon. It is our opinion that all of the following conditions must exist before res ipsa loquitur should be applied:

1. The defendant must have exclusive possession or control of the instrumentality causing the injury;

2. The accident must be of such a character that in the ordinary course of events it would not be expected to occur if due care had been used by the defendant;

3. The accident must have occurred without any voluntary action or participation by the party injured; and

4. The information as to the cause of the accident must be more accessible to the defendant than to the plaintiff.

However, in the Cavero case, a majority of the supreme court held that the fact that deaths rarely occur during tonsillectomies was sufficient to apply res ipsa loquitur and to require the defendants, a surgeon and a hospital, to explain and to prove lack of negligence. A minority of the court dissented, on the ground that the mere fact that death under such circumstances was rare was insufficient to apply res ipsa loquitur, and pointed out that a decade ago, in *Engelking v. Carlson*, the same court had held that res ipsa loquitur was not applicable to the severance of the peroneal nerve during a knee operation, merely because such a severance was a rare occurrence.

It is too soon to foretell what effect the Cavero decision will have upon malpractice cases in California. If the opinion of the majority of the court is carried to its logical conclusion, physicians and surgeons will be required to prove themselves innocent whenever death occurs under circumstances that infrequently result in death, or where any unusual result occurs. This would be so incompatible with a vigorous medical profession, and would be so injurious to the public, that we cannot but believe that the supreme court will in future cases clarify and modify its views.

3. *Constitution and By-Laws:*

We assisted in drafting the proposed new constitution that will be voted on by the House of Delegates at the 1951 session and the proposed by-laws that will be presented to the House of Delegates at that time. The constitution and by-laws that will be presented to the 1951 session are the result of drafting and redrafting over a period of several years.

There have been other services performed by the Legal Department which will be reported orally to the House of Delegates.

As we have concluded our report in previous years, "We wish to reiterate our constant desire to serve the medical profession to the best of our ability."

Respectfully submitted,

PEART, BARATY & HASSARD,
General Counsel

REPORT OF THE EXECUTIVE SECRETARY

To the President and the House of Delegates:

Your Executive Secretary herewith submits his report for the past year in subdivisions for greater clarity.

1. *General:* The Association office occupies the same space as a year ago, although some alterations are now under way to provide more wall space for the maintenance of record files. Each increase in the membership of the Association—and the membership has shown a consistent increase in each of the past ten years—means that more individual and group records must be kept. This means new equipment and demands that additional space be arranged for and obsolete and useless material be constantly weeded from the files.

The files are currently in excellent condition and free of deadwood. Additional units now being installed are designed to keep them that way.

As to office equipment, two new typewriters have recently been purchased under a planned system of rotation of machines in order to keep this equipment as modern as possible without adding undue burdens to the budget. Under existing threats of material shortages, rationing and similar wartime measures, it is essential to keep such equipment in good condition.

It should be pointed out that the Association's office is daily getting closer to the point at which it cannot, in its present space, adequately serve the needs of the organization in an efficient manner. A year ago it was believed possible to secure some additional office space but this prospect did not materialize. Before too long it will doubtless become necessary to work out a complete overhaul of the office situation, whether it be through additional space at the same location, extensive alterations or new and larger space in some other place. This is not a matter of immediate concern but advance planning demands that this eventuality be kept in mind.

2. *Meetings:* The Executive Secretary has attended all meetings of the Council and the Executive Committee, together with a number of meetings of standing and special committees. He has also attended a number of informal meetings with officers of the Association and has served as an aide to the Association's delegates to the regular and interim meetings of the American Medical Association. In addition to these, he has attended, as a guest speaker, the meetings of 27 county medical societies during the fall months. Mention of these visits will be made under the heading of public relations.

3. *Financial:* Reports of the financial status of the Association at the close of its 1950 fiscal year will be found under the report of the Treasurer, representing the reports of the certified public accountant who audits the C.M.A. books. As the employee directly responsible for the handling of finances, the Executive Secretary offers a few items of interest.

The Association closed its 1950 fiscal year in excellent financial condition. Its revenues for the fiscal year ended June 30, 1950, totaled $580,314, or $91,623 more than its expenses for the same period. From this surplus and other funds it was possible to transfer $100,000 in U. S. Treasury Bonds to the Trustees of the California Medical Association, the corporate non-profit affiliated organization. Expenditures in all major divisions of the budget, namely, administrative, scientific-educational-and public relations, and the official journal, were within budgeted figures, and revenues were higher than the budget.

Expenses of the Southern California office, of the Stockton office of the Committee on Postgraduate Activities and of the Cancer Commission office in San Francisco were all within their budgets. The official journal returned a sizable net profit, as will be shown in another section of this report.

The Trustees of the California Medical Association, as shown in the financial report of the corporation, showed a gain in surplus and in investment funds at the close of the 1950 fiscal year. This corporation serves only as a holding company for accumulated assets and its business transactions consist entirely of the buying and selling of securities. Its report is listed under the report of the Treasurer.

4. *California Medicine:* The Association again has every right to feel pride in its official journal. Under the present editorial policy it has gained an enviable position among state medical journals, has provided an ever-growing service to members of the Association in publishing current medical articles and has, at the same time, carried its own weight and returned a financial profit. For the 1950 fiscal year the journal showed revenues of $121,813 and expenses of $101,402 for a net profit of $20,411. This accounting is based upon the payment of rent for the office space used, payment of applicable salaries and assumption of all expenses on a cost-accounting basis. Included in the audited income is the subscription rate of $3 per year per active member of the Association, in accordance with postal requirements.

The journal is indebted to its Committee on Advertising, appointed by the Council several years ago to screen advertising offerings. This committee meets frequently, diligently reviews every word of advertising copy under consideration and accepts or rejects every advertising item. This is a task of large proportions and the members of this committee are entitled to a vote of thanks for their interest, diligence and high standard of performance.

5. *Public Policy and Legislation:* The Executive Secretary is again being called upon by the Committee on Public Policy and Legislation to aid in the legislative activities of the Association. This work involves giving testimony before standing or interim committees of the Legislature, as well as cooperating with committee members and legislative representatives in the numerous duties of the committee. The 1951 legislative session promises to be even more important than other recent sessions and the Association's office will be ready to do what is required to aid in this important activity.

6. *Public Relations:* The Executive Secretary has worked in the past year on a proposed program of public relations, to emanate from within the Association. This work has been carried on under the Advisory Planning Committee and to date the plans have met with approval, in principle, by the Council. The underlying feature of the proposed program is the bringing home of the individual physician's responsibility in the field of public relations and the establishment of progressive programs at the county level to assure good public reception. At this writing the program is still in preparation but upon its completion and activation it will represent a distinct tie-in between the Association, its component county societies and the individual members.

During the fall months the Executive Secretary accompanied the President-elect, and on two occasions the President, on visits to 27 county medical societies. The purpose of these visits was to bring home to the individual physicians their own responsibilities in public relations and to suggest ways and means of meeting those responsibilities. It is hoped that these visits may have represented the first step in paving the way for general acceptance of the public relations program mentioned above, in alerting individual members to the manner in which they can contribute to the good of the entire profession. The visits to the county medical societies have taken considerable time and have required a great deal of travel; at the same time, it is believed that the personal contact between the officers of the Association and the component county societies has been well worth every effort required. Such meetings bring the state and county organizations closer together and should be continued as assets of incalculable value.

7. *Annual Session:* Plans for the 1951 Annual Session are well under way at this time and a most successful meeting is anticipated. Unfortunately, color television showings of surgery and medical clinics could not be secured because of space limitations, but it is hoped to have that feature available at future meetings. The coming meeting appears to be the largest ever planned by the Association, both in terms of exhibits and of scientific papers scheduled. Every effort will be made to provide a smooth operation of the entire session; in this connection the Committee on Scientific Work has been most cooperative and willing to attend to the many details which are beyond the capacity of a small central office staff to handle.

8. *Conclusion:* The Executive Secretary wishes to express his profound thanks to the Officers and Councilors of the Association for their constant and ready cooperation in all matters. The Association's office is maintained to relieve these busy practitioners of all possible responsibilities, while at the same time carrying out their directives. The ready availability of all these men makes it possible to put official policies into effect with a minimum of delay. The Editor and

Secretary-Treasurer have also been most cooperative at all times and of invaluable counsel. Legal counsel, the field secretary and the executive secretary of the Public Health League of California have all been unsparing in their assistance throughout the year and special thanks are due them. The office staff has, as usual, carried out its duties in a prompt and competent fashion and has made it possible for the Association's work to go forward. The cooperative spirit of the staff members is a daily inspiration and cannot be too highly praised.

Respectfully submitted,

JOHN HUNTON, *Executive Secretary*

REPORT OF THE EDITOR

To the President and the House of Delegates:

Continuing effort was made last year to make CALIFORNIA MEDICINE representative of the various facets of the practice of medicine in the state. To that end, careful consideration was given to manuscripts originating outside as well as from within the metropolitan and teaching centers. In the interest of a well rounded journal, a number of articles considered worthy of publication were reluctantly returned to the authors because CALIFORNIA MEDICINE already had on hand a sufficient stock of articles dealing with subjects in the same field of medicine.

As a considerable number of the letters directed to your journal concern the date of publication of one or another of the articles that have been accepted, explanation of publication schedules is in order. A large part of the material for CALIFORNIA MEDICINE is made up of papers read at the Annual Session of the California Medical Association. Most of those accepted are accepted within a relatively short period after the meeting. This creates a bulge in inventory which can be but slowly reduced. Meanwhile and throughout the remaining months of the year, manuscripts sent directly from other sources are being accepted. In selecting material for publication in each issue of CALIFORNIA MEDICINE, consideration is given to timeliness and to a balance of content as between the sources and the subject matter of the articles. Because of these factors, some articles are used soon after they are accepted, others not until many months have elapsed. Not infrequently, delay in publication is caused by necessity of correspondence with the authors of manuscripts regarding questions raised and revisions suggested by members of the Editorial Board.

During the past year the average interval between acceptance and publication of articles was five months. In order to keep that interval as short as possible, a reduction in inventory was effected by publishing more articles than were accepted during the year. Of 293 articles submitted, 148 were accepted. The number printed was 162.

The annual report of the Editor of your journal gives him welcome opportunity to express an accumulation of gratitude to the members of the Editorial Board, who by careful appraisal and criticism of manuscripts submitted have made his duties the lighter. Thanks are also due to Robert Edwards, assistant to the Editor, who has continued to render invaluable service in every capacity in the production of the journal, and to John Hunton, Executive Secretary, who has written many of the editorials. To others, too—to those who have prepared special material for the journal, to those who have written book reviews, to those who because of specialized knowledge have been called upon for opinion of manuscripts, and to the office staff of CALIFORNIA MEDICINE—to them the editor's thanks.

Respectfully submitted,

DWIGHT L. WILBUR, *Editor*

REPORT OF THE TREASURER

To the President and the House of Delegates:

The Treasurer of the Association was appointed in August. The actual duties of this office are performed by the office staff and the accounts are audited by an independent accounting firm. The receipts and expenditures of all funds are checked and the presence of cash, securities and other assets is certified to.

Submitted herewith is the series of accounts prepared by John F. Forbes and Company covering the fiscal year July 1, 1949 to June 30, 1950.

Members are urged to study the accounts for a true picture of the Association's financial position.

Respectfully submitted,

ALBERT C. DANIELS, *Treasurer*

(Balance sheets and statements of income and expenditure appear on following pages.)

TRUSTEES OF THE CALIFORNIA MEDICAL ASSOCIATION

(A California Corporation)

BALANCE SHEET, JUNE 30, 1950

ASSETS

CASH (Exclusive of Benevolence and Endowment Funds)			$ 22,963.18
INVESTMENTS (Exclusive of Benevolence Fund Investments)			1,003,000.00
BENEVOLENCE FUND (Including Investments in U. S. Government Bonds) (Contra)			26,186.37
ENDOWMENT FUND (Contra)			276.74
TOTAL ASSETS			$1,052,426.29

LIABILITIES

DUE TO BENEVOLENCE FUND			$ 165.00
BENEVOLENCE FUND (Principal Plus Income Accumulation) (Contra)			26,186.37
MEMBERS' CONTRIBUTION TO ENDOWMENT FUND (Principal Plus Income Accumulation) (Contra)			276.74
SURPLUS:			
Contributed Surplus:			
Balance, June 30, 1949	$781,775.28		
California Medical Association—Bonds and Accrued Interest	101,140.71		
Total		$882,915.99	
Earned Surplus:			
Balance, June 30, 1949	$119,850.89		
Net Income for Year	23,031.30	142,882.19	
Total			1,025,798.18
TOTAL LIABILITIES			$1,052,426.29

TRUSTEES OF THE CALIFORNIA MEDICAL ASSOCIATION

San Francisco, California

STATEMENT OF INCOME

For the Year Ended June 30, 1950

INCOME:		
Interest on Bonds		$ 23,756.93
Interest on Savings Account		2.87
TOTAL INCOME		$ 23,759.80
EXPENDITURES:		
Premium on Bonds Purchased	$487.50	
Audit Fee	210.00	
Miscellaneous	31.00	
TOTAL EXPENDITURES		728.50
NET INCOME		$ 23,031.30

CALIFORNIA MEDICAL ASSOCIATION

San Francisco, California

BALANCE SHEET—JUNE 30, 1950

ASSETS

CASH		$ 84,328.66
ACCOUNTS RECEIVABLE:		
California Medicine Advertisers	$ 1,605.17	
Less Reserve for Doubtful Accounts	500.00	
Remainder	$ 1,105.17	
Other	1,031.21	
Total		2,136.38
LOAN RECEIVABLE—NEW MEXICO PHYSICIANS' SERVICE	$15,500.00	
Less Reserves	14,500.00	
Remainder		1,000.00
INVESTMENT IN U. S. TREASURY BILLS (at cost)		299,353.40
CASH SURRENDER VALUE OF LIFE INSURANCE POLICY		2,211.60
TRUST FUNDS (contra)		17,247.90
FURNITURE AND FIXTURES (at nominal value)		1.00
DEFERRED CHARGES		20,687.47
DEPOSITS		974.88
TOTAL		$427,941.29

LIABILITIES

ACCOUNTS PAYABLE:		
American Medical Association	$ 2,450.00	
County Societies	1,150.00	
Taxes collected for Federal Government from Employees	875.84	
Miscellaneous	985.90	
Total		$ 5,461.74
ACCRUED EXPENSES:		
American Medical Association—Delegates' and other expenses	$ 4,010.93	
Committees' and Sundry	3,108.46	
Pay Roll Taxes	255.36	
Total		7,374.75
TRUST ACCOUNTS (contra)		17,247.90
DEFERRED INCOME—PREPAID ADVERTISING		229.68
SURPLUS		397,627.22
TOTAL		$427,941.29

CALIFORNIA MEDICAL ASSOCIATION
San Francisco, California

STATEMENT OF INCOME AND SURPLUS
For the Year Ended June 30, 1950

INCOME

DUES AND GENERAL:		
Membership Dues, less portion allocated to *California Medicine* Subscription		$438,208.68
Exhibitors at Annual Meeting		18,850.00
Interest Earned		1,442.71
Total		$458,501.39
OFFICIAL JOURNAL—*California Medicine:*		
Advertising	$ 87,129.51	
Members' Subscriptions Allocated from Dues	32,133.00	
Other Subscriptions	2,064.53	
Reprints (net)	485.75	
Total		121,812.79
TOTAL INCOME		$580,314.18

EXPENDITURES

Administration	$128,751.28	
Scientific, Educational and Public Relations	258,537.92	
Total	$387,289.20	
Official Journal—*California Medicine*	101,402.08	
Total		488,691.28
EXCESS OF INCOME OVER EXPENDITURES		$ 91,622.90
SURPLUS CREDITS:		
To reflect cash surrender value of life insurance policy	$ 2,211.60	
To reflect unrecovered lease deposit	274.00	
Unexpended public relations expenses at June 30, 1949	1,366.60	
To adjust prepaid rental account	183.16	
American Cancer Society salary contribution for Cancer Commission	220.00	
Reduction in reserve for New Mexico Physicians' Service loan	3,000.00	
Total		7,255.36
TOTAL		$ 98,878.26
SURPLUS CHARGES:		
Transfer of assets to Trustees of the California Medical Association:		
U. S. Treasury Bonds—at maturity value	$100,000.00	
Accrued interest	1,140.71	
Total	$101,140.71	
Absorption of bond premium paid on the above bonds	3,437.50	
Total	$104,578.21	
Expenses applicable to a prior period:		
Legal fees	$5,500.00	
Federal unemployment taxes	84.90	5,584.90
TOTAL		110,163.11
DECREASE IN SURPLUS FOR THE YEAR		$ 11,284.85
SURPLUS AT BEGINNING OF YEAR		408,912.07
SURPLUS AT END OF YEAR		$397,627.22

CALIFORNIA MEDICAL ASSOCIATION

San Francisco, California

STATEMENT OF EXPENDITURES

For the Year Ended June 30, 1950

ADMINISTRATION:		
Salaries:		
Executive Secretary	$ 18,000.00	
Administrative	10,725.00	
Clerical	9,569.68	$ 38,294.68
Traveling:		
Executive Secretary and Secretary	$ 1,189.36	
Officers	1,385.23	
Council and Executive Committee	4,795.95	7,370.54
Annual Meeting Expenses—Including Transportation		21,885.44
American Medical Association Convention—Delegates' Traveling and Sundry Meeting Expenses		13,583.25
Council and Executive Committee Expense		2,708.15
County Secretaries' Conference		1,205.12
Los Angeles Office Expenses		2,028.42
Legal and Organization Expense:		
Legal:		
Retainer	$ 6,000.00	
Other	3,092.28	
Total	$ 9,092.28	
Organization Expense	8,770.25	17,862.53
Office Expenses:		
Office Rent	$ 5,630.28	
Telephone and Telegraph	2,258.40	
Supplies and Expense	4,057.30	
Postage	935.34	
Annuities	1,529.72	14,411.04
Other Expenses:		
Equipment Purchased	$ 1,393.40	
Pay Roll Taxes	1,114.71	
Pensions	4,620.00	
Contributions:		
The Woman's Auxiliary to the California Medical Association	750.00	
Ray Lyman Wilbur Memorial Fund	1,000.00	
Miscellaneous	524.00	9,402.11
SCIENTIFIC, EDUCATION AND PUBLIC RELATIONS:		
Department of Public Relations	$124,713.81	
Public Policy and Legislation	62,289.98	
Physicians' Benevolence	10,359.75	
Postgraduate Activities	10,459.99	
Cancer Commission	26,329.59	
Other Committee Activities	14,204.94	
Medical Economics	5,000.00	
Subscriptions to Libraries	5,179.86	258,537.92
OFFICIAL JOURNAL—*California Medicine:*		
Printing	$ 66,755.37	
Advertising Sales Expense	8,889.86	
Salaries	14,292.17	
Rent	1,956.00	
Telephone and Telegraph	801.29	
Postage and Mailing	3,979.84	
Addressograph	1,803.08	
Illustrations	1,210.61	
Advertising Discounts and Collection Expenses	1,487.73	
Sundry	226.13	101,402.08
TOTAL EXPENDITURES		$488,691.28

REPORTS OF DISTRICT COUNCILORS

FIRST COUNCILOR DISTRICT

Imperial, Orange, Riverside, San Bernardino and San Diego Counties

To the President and the House of Delegates:

The custom of an annual visit to the county medical societies by the officers of the California Medical Association has been revived this year. Dr. Donald Cass and Messrs. Ben Read and Ed Clancy have included talks with the Woman's Auxiliaries of the various societies with these visits.

Your Councilor has had the opportunity to introduce them at these meetings during the autumn months in San Bernardino and Riverside counties. During the month of January it is our plan to include Riverside, San Diego and Imperial county societies with similar visits. We hope that the revival of these annual meetings will not be short-lived, although it does seem that World War III may very well result in a resumption of wartime restrictions on travel.

It continues to be difficult to keep up with the rapid growth of California Medical Association, which is now the second largest state medical association in the United States. It is gratifying to note that the National Educational Campaign of the American Medical Association is merely an enlargement of the program so successfully developed by the California Medical Association under the direction of Whittaker and Baxter. The results of the November elections speak conclusively of the effectiveness of the program thus developed. It must be remembered, however, that "We have just begun to fight."

The problems of public relations are still being studied and we continue to make every effort to promote good public relations and are ever alert in our effort to prevent poor public relations.

I have regularly attended all of the meetings of the Council this year; the minutes of these meetings have already been duly published in CALIFORNIA MEDICINE.

I feel certain that the medical profession will again meet the challenge of the call to arms. The increased burden for those, both in the services and out, will be borne with the same patriotism and awareness of responsibility as previously. The Council will continue to function effectively under the able chairmanship of Dr. Sidney J. Shipman in spite of the additional problems bound to develop as the war effort continues to grow.

Respectfully submitted,

JOHN D. BALL, *Councilor,*
First District

SECOND COUNCILOR DISTRICT

Los Angeles County

To the President and the House of Delegates:

The resolutions to be presented to the House of Delegates of the California Medical Association this year will be very interesting and important. Every year the business transacted by the House of Delegates grows, more committees are necessary, and the profession at large is more active and interested in what is going on. It is necessary that all members of the California Medical Association, not just a few, become acquainted with the work of the House of Delegates and the activities of the Association. Those who are interested should appear before the different committees of the House of Delegates and discuss the various resolutions. All should attend the meetings of the House of Delegates, especially delegates, alternates, and county association and hospital staff officers.

In short, I urge that more attention be paid to the resolutions and business of the Association and House of Delegates by the doctors of California and for them to present resolutions through their own delegates for the House's consideration.

During the year of 1950 your delegate from District Two attended all of the Council's meetings. In our Journal the Council's transactions have been printed and I hope read by all.

Respectfully submitted,

JAY J. CRANE, *Councilor,*
Second District

THIRD COUNCILOR DISTRICT

Kern, San Luis Obispo, Santa Barbara, Ventura and Inyo-Mono Counties

To the President and the House of Delegates:

All the societies of the Third Councilor District have increased their memberships and are very active.

The blood bank which was sponsored by the three coastal counties for this area is functioning very well and has been one of the major projects of the District for the past year.

Respectfully submitted,

H. E. HENDERSON, *Councilor,*
Third District

FOURTH COUNCILOR DISTRICT

Fresno, Madera, Kings, Tulare, Merced, Mariposa, Calaveras, San Joaquin, Tuolumne, and Stanislaus Counties

To the President and the House of Delegates:

This is my first year as a Councilor, representing the Fourth District, and as such I have not been able to contribute much to the activities of the California Medical Association. I have attended all the Council meetings and have visited with the societies in the area. Perhaps our best meetings were those where Dr. Donald Cass, Dr. Gordon MacLean and Mr. John Hunton were able to attend. These grass-roots meetings were well attended and well received.

During the past year, not as an activity of the California Medical Association but as an activity of a group of doctors, dentists, and pharmacists, a non-partisan public health league was formed for the procurement of better government. This league was quite active in the last election and they expect to remain as an organization for future work that may be necessary.

In Fresno County our executive secretary, Mr. Glenn Gillette, has done a very good job in directing the activities of the different committees and in public relations work for our society.

Respectfully submitted,

NEIL J. DAU, *Councilor,*
Fourth District

FIFTH COUNCILOR DISTRICT

Monterey, San Benito, San Mateo, Santa Clara and Santa Cruz Counties

To the President and the House of Delegates:

The Fifth Councilor District has had a very successful year. Monterey County has increased its membership from 102 to 115 members. The society has rewritten its constitution and adopted it and is preparing to incorporate the society. Ground has been broken for the Salinas Valley Memorial Hospital. This new hospital will be a five-story, 139-bed hospital of the latest design. This is a district hospital and is expected to be completed in eighteen months. The civil defense committee of the medical society is busy organizing a "walking blood bank," whereby as many persons as can will be typed and given dog-tags showing type and Rh. This committee is ably headed by Dr. S. C. Rascoe and assisted on the laboratory side by Dr. Ernest Seard.

Santa Cruz County has had some increase in membership and has had good turnouts at all its monthly meetings. The members of this society are continuing their support of one of their confreres incapacitated by polio. The medical men of Santa Cruz County are contributing $100 each to this fund and are being helped some from the funds of the C.M.A.

San Benito County has had an increase of one member during the year. The woman's auxiliary has sponsored and formed a hospital auxiliary and has raised funds to build a new unit on the Hazel Hawkins Hospital in Hollister. This will increase the capacity of the hospital to a total of 26 beds. The blood bank program in San Benito County has been one of the most outstanding in the state. At the present time they are 400 per cent over their quota.

Santa Clara County has experienced a very rapid increase in new members for the county medical society. The society has expanded its advertising campaign initiated last year and has broadened its entire public relations program. There was a very satisfactory response to a series of advertisements guaranteeing medical care for all people who needed it in Santa Clara County regardless of ability to pay. This program was such a success that Mr. Joe Donnelly, executive secretary, was awarded one of the national prizes for constructive advertising.

San Mateo County has steadily increased its membership during the year. The society has expanded its organization and committee work to handle a large increase in medical problems. Several successful social events have gotten the medical profession of the county much better acquainted. Mr. Robert Wood, the medical secretary, has been highly instrumental in putting into effect a public relations program and has carried the work of the society, and to some extent of C.P.S., to the attention of the public. The plans for a new district hospital at Millbrae are completed and ready to go. The Sequoia High School District at Redwood City has built and dedicated its new hospital, which is now serving that community.

Respectfully submitted,

HARTZELL H. RAY, *Councilor,*
Fifth District

SIXTH COUNCILOR DISTRICT

San Francisco County

To the President and the House of Delegates:

Under the leadership of William L. Bender the society which I represent has completed a full and fruitful year.

A complete revision of the constitution and by-laws was made and passed by the membership. Hereafter the organization will be known as the San Francisco Medical Society, the term "county" having been dropped. Among other changes, the new constitution sets up a president-elect, an assistant secretary-treasurer and separates the duties of editor of the bulletin from those of secretary-treasurer.

In order to stimulate increased interest in attendance at the society's general meetings the program committee under Chairman Edgar J. Munter inaugurated dinner meetings which were addressed by such outstanding medical leaders as Frank Lahey, Albert Snell, Paul O'Leary, Eduardo Braun-Menendez and Walter Alvarez. These meetings were very effective. As many as five hundred members were drawn to at least three of the meetings.

The admissions committee passed upon 154 applicants for membership of which 57 were for junior classification. The orientation lectures continue to be effective. Under the new constitution this committee is combined with the membership committee and enlarged to six. It is believed the result will be a more effective organization.

The increased defense activity has increased the importance of our blood bank commission and our representation on the mayor's civilian defense committee.

Several committees concerned themselves effectively with strictly medical problems such as cancer, diabetes control, health-education, problems of the deaf, industrial and mental health and the evaluation of hospitals and dispensaries.

Special attention was directed toward interesting the resident or junior physicians in the problems of medicine and demonstrating to them the services that are being rendered physicians by local, state and national organizations.

Many of the other activities cannot be enumerated for lack of space. 1950 was an effective year. 1951 promises to be a challenging one. Our society is well equipped in facilities, traditions and officer personnel to meet it.

Respectfully submitted,

M. LAURENCE MONTGOMERY, *Councilor,*
Sixth District

SEVENTH COUNCILOR DISTRICT

Alameda and Contra Costa Counties

To the President and the House of Delegates:

The outstanding development of the past year has been the amalgamation of the Alameda County and Contra Costa County medical associations to form the Alameda-Contra Costa Medical Association. Several services of the Alameda County Medical Association were widely used in Contra Costa County, especially the Bureau of Medical Economics and the malpractice insurance plan. The unification of the two societies allows further utilization of all services and permits more efficient administration of such services.

The association has gathered information and kept its members informed as regards assignment and procurement and problems pertinent to military service. An advisory committee to assignment and procurement service was set up and has been of particular value in its cooperation with the military authorities.

The Alameda County-Contra Costa County Medical Plan continues in its development towards maturity. There are still many growing pains as it passes through adolescence.

Respectfully submitted,

DONALD D. LUM, *Councilor,*
Seventh District

EIGHTH COUNCILOR DISTRICT

Alpine, Amador, Butte, Colusa, Eldorado, Glenn, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Sutter, Tehama, Yolo and Yuba Counties

To the President and the House of Delegates:

The visits of Dr. MacLean and Mr. Hunton to each of the societies comprising the Eighth District during the last year were well received and helped to further understanding and good will between the county and state societies. Two new Woman's Auxiliaries have been organized in this area during the last year. Reasonable progress is being made in the addition of hospital beds which remain inadequate in several areas. A number of the younger men are again being inducted into the armed services. The provisions of the present draft law relating to Doctors have the overwhelming support of the profession, and the medical advisory boards which have been set up to assist the draft boards appear to be functioning satisfactorily.

Blood banking facilities under medical supervision have continued to expand, and when present plans for a bank at Redding have materialized, adequate coverage for Northern California will have been obtained.

Respectfully submitted,

WAYNE POLLOCK, *Councilor,*
Eighth District

NINTH COUNCILOR DISTRICT

Del Norte, Humboldt, Lake, Marin, Mendocino, Napa, Siskiyou, Solano, Sonoma, and Trinity Counties

To the President and the House of Delegates:

Due to illness, which began on November 7, 1950 (having no records at home), and being continuously confined to the house ever since, this report is necessarily brief.

There have been no problems in this District during the period covered by this report. President-Elect H. Gordon MacLean made his visit to the county societies during the summer and fall, in company with Executive Secretary John Hunton. These visits were of distinct value to the membership as well as to members of the Woman's Auxiliary. We feel this practice should be continued when it is possible to do so. Irwin Memorial Blood Bank, in conjunction with the local chapters of the American Red Cross, has been busy with the collection of whole blood in the counties around the Bay. The Mare Island Naval Hospital has been reactivated, after having been closed since June, and now has over 800 patients, mostly Korean casualties.

Respectfully submitted,

JOHN W. GREEN, *Councilor, Ninth District*

REPORTS OF COUNCILORS-AT-LARGE

To the President and the House of Delegates:

As one of your Councilors-at-Large, I have regularly attended the meetings of the Council and Executive Committee during the past year. Inasmuch as the minutes of these meetings have been duly published in CALIFORNIA MEDICINE, it is unnecessary to comment on them further. Suffice it to say it is my impression that the Council, as now constituted, has functioned effectively in dealing with the many problems which have arisen during the year.

Respectfully submitted,

SIDNEY J. SHIPMAN, *Councilor-at-Large*

To the President and the House of Delegates:

As Councilor-at-Large I have attended the meetings of the Council of the California Medical Association and have taken part in the discussions and decisions of the Council. I have also carried out committee and other assignments.

In addition, as director of the San Francisco County Medical Society, I have endeavored to correlate state and county organizations.

Respectfully submitted,

IVAN C. HERON, *Councilor-at-Large*

To the President and the House of Delegates:

The legislative committee of the Council and the legislative committee of the Board of Medical Examiners have worked closely together preparing legislative bills in the interest of the public health and welfare. Among these bills are some which propose that the practice of medicine without a license (like the practice of dentistry without a license) should be made a *grand* misdemeanor for the first offense, and a felony for the second offense, instead of an *ordinary* misdemeanor as is the case at the present time. Several other similar bills to prevent blood pressure readings made by street-corner operators, and other forms of quackery, have been introduced.

In collaboration with the deans of the various medical schools, the requirements for medical training were revised and simplified in the light of modern advancements, with such obsolete subjects as materia medica being eliminated. The entire approach to the subject of examinations was revised with emphasis being placed on the approval of medical schools rather than on the precise number of hours of education to which the candidate had been exposed.

It was also proposed that if a doctor of medicine was adjudged as insane, he should not be deemed guilty of "unprofessional conduct," as is the case at the present time, but should instead have his license suspended until evidence of restoration or declaration of sanity was shown.

Respectfully submitted,

WILBUR BAILEY, *Councilor-at-Large*
President, State Board of Medical Examiners

To the President and the House of Delegates:

The past year has added war preparation, disaster relief and other new matters of great import to the usual routine work of the Council in administering your Association's business. Study, discussion and then decisions have been rendered to the best of their ability. The results have been most gratifying.

Respectfully submitted,

BEN FREES, *Councilor-at-Large*

To the President and the House of Delegates:

During the past year I have attended the Council meetings, and meetings of several committees. I have also been privileged to attend several meetings of the State Advisory Hospital Council. As a Councilor I have participated briefly in the meetings of my own county association.

The published reports and proceedings of the meetings bear witness to the serious thought given to the affairs of the Association by all of your elected officers—and employees.

Respectfully submitted.

C. V. THOMPSON, *Councilor-at-Large*

REPORTS OF COMMITTEES

EXECUTIVE COMMITTEE

To the President and the House of Delegates:

The Executive Committee has held meetings between Council meetings and such special meetings as were necessary to act upon matters which needed prompt attention. The minutes of the Executive Committee have been presented to the Council for approval and have been subsequently published in CALIFORNIA MEDICINE.

All members of the Executive Committee have been most attentive and cooperative in their work.

Respectfully submitted,

DONALD D. LUM, *Chairman*

COMMITTEE ON ASSOCIATED SOCIETIES AND TECHNICAL GROUPS

To the President and House of Delegates:

Resolution 19, adopted by the House of Delegates in session May 2, 1950, was referred by the Council to this Committee for study and recommendation. This resolution calls upon the California Medical Association and the component county societies to (1) set up required standards of education and an appropriate code of ethics for psychologists who work under the direction of the medical profession, and (2) make available for the use of the medical profession and the public a list of such recognized psychologists.

A meeting of the full Committee was held in San Francisco June 27, 1950, with Thomas D. Cutsforth, psychologist from Los Angeles, present by invitation.

It was the opinion of the Committee that it is entirely impracticable, at the present time, for the medical profession to attempt to establish required standards of education for psychologists.

The code of ethics proposed by the clinical psychologists who are members of the American Psychologic Association and are engaged in psychotherapy and private practice in the Los Angeles area was carefully reviewed. Objection was made to Item 1 and Item 2 on the grounds that these implied that primary clinical responsibility is vested in the psychologist. He decides whether or not to refer patients to an M.D. for physical complaints, and to whom to refer patients. It was the unanimous opinion of this Committee, and agreed to by Mr. Cutsforth, that this should be changed to guarantee acceptance of patients only from an M.D. for specific treatment. Such change would conform to the opinion of this Committee that primary clinical responsibility should, at all times, belong to a doctor of medicine.

The Committee made the following recommendations in regard to a registry of psychologists:

(1) That the psychologists themselves, through the American Psychological Association or the committee on professional ethics of the clinical psychologists in private practice in the Los Angeles area, prepare a registry list of those psychologists whom they consider properly qualified and who subscribe to their code of ethics as modified by previous suggestion of this Committee.

(2) That this registry list, underwritten by the American Psychological Association and not by the California Medical Association, be made available in any county medical society office to be used exclusively as a source of information for the members of the local county medical society. Under no circumstances should this registry list be made available to the lay public.

(3) That this registry list be subject to critical review and correction yearly.

The Council approved the report of the Committee at its meeting September 9, 1950.

The Council also referred to this Committee for recommendation a request from the Alameda County Medical Association for assistance in making effective the requirements of the American College of Surgeons for hospital approval without the necessity of frequent staff meetings requiring compulsory attendance.

The Committee is unable at this time to offer any constructive suggestions for such assistance. It does recommend that a serious study of this important problem be carried out in the coming year by the appropriate committee.

Respectfully submitted,

Robert A. Scarborough, *Chairman*

AUDITING COMMITTEE

To the President and the House of Delegates:

A survey of business procedures of the California Medical Association was made by a certified public accounting firm. Recommendations were made as to changes in minor procedures which were approved by the Council and placed in effect. All records were found to be in good order.

The Committee has also made recommendations to the Council concerning the 1951 budget.

Respectfully submitted,

Donald D. Lum, *Chairman*

COMMITTEE ON HEALTH AND PUBLIC INSTRUCTION

To the President and the House of Delegates:

The Committee on Health and Public Instruction has attempted to keep in touch with health activities concerning practicing physicians, public health officials, and the general public. While no formal meetings have been held during the past year, the Committee stands ready at all times to assist the Association in the field of health education.

Respectfully submitted,

Orrin S. Cook, *Chairman*

COMMITTEE ON HISTORY AND OBITUARIES

To the President and the House of Delegates:

The Committee on History reports that the search for source material needed for a history of the State Medical Association continues. The records of the early years of organized medicine in California are meager and hard to find. Medical and lay press alike give only scant information on medical organization of 100 years ago. Much accessory reading is necessary to glean occasional items of factual and historical worth.

Recently a letter was sent to the county societies asking them to forward their early minute books to the California Medical Association Historian, Dr. George H. Kress of Los Angeles, who aimed to use the same in working out a skeleton sketch of each county society's beginnings and past. The C.M.A. Committee on History hopes the county medical societies will lend their cooperation in this endeavor.

The Committee is happy to report the publication during the past year of "Memories, Men and Medicine" by J. Roy Jones, M.D., of Sacramento. This volume, representing years of research, is a history of medicine and medical men of Northern California and particularly of Sacramento and Sacramento County from 1849 to 1949. This valuable work was sponsored by the members of the Sacramento Society for Medical Improvement, and it is to be hoped that the success of their efforts will stimulate other medical groups to publish the history of medicine in their own districts. Dr. Jones is engaged at present in the preparation of "Saddlebags in Siskiyou," a history of the medical pioneers of his native county.

Obituaries: The records of the California Medical Association as of January 10, 1951, show that during the past year death has claimed 109 California doctors. Your Committee recognizes that this number falls short of the actual total. In our report for 1949 we recorded 105 deaths, the total known at the time the report was written. Subsequent to the filing of the report the C.M.A. received notice of the passing in 1949 of 29 additional California doctors. The names, together with records of age, date and place of graduation, society membership, cause of death and other data of the 109 doctors whose deaths are here reported, have all appeared in the files of California Medicine. The list contains the names of many men of state and national reputation. Most of them were known personally to the members of your Committee, and in many cases their passing has meant the termination of years of friendship. Paraphrasing the words of Paul to Timothy, "They have fought a good fight, they have finished their course, they have kept the faith." To our departed confreres—Hail and Farewell.

Respectfully submitted,

Robert A. Peers

COMMITTEE ON HOSPITALS, DISPENSARIES, AND CLINICS

To the President and the House of Delegates:

The Committee on Hospitals, Dispensaries and Clinics has had no meetings since the last Annual Meeting of the California Medical Association. Since I have been chairman of the committee, no communication or business has been referred to the committee for action.

Respectfully submitted,

JOHN B. HAMILTON, M.D., *Chairman*

COMMITTEE ON INDUSTRIAL PRACTICE

To the President and the House of Delegates:

During the year 1950 no problems have been referred to the Committee on Industrial Practice by the Council or the House of Delegates. No meetings of the Committee were held during the year, no business was transacted and there is no unfinished business.

Respectfully submitted,

R. M. WALLERIUS, *Chairman*

COMMITTEE ON MEDICAL DEFENSE

To the President and the House of Delegates:

The Committee on Medical Defense has had no meetings during the past year, and no communication or business has been referred to the committee for action.

Respectfully submitted,

H. CLIFFORD LOOS, *Chairman*

COMMITTEE ON MEDICAL ECONOMICS

To the President and the House of Delegates:

The Committee on Medical Economics studied two subjects during the past year:

(1) The individual doctor-patient relationship,

(2) Physician abuses of insurance companies.

With the aid of a business psychologist and Mr. Rollen Waterson, executive secretary of the Alameda-Contra Costa Medical Association, the study of the individual doctor-patient relationship has been completed. A full report will be presented to the Council of the C.M.A. before the 1951 Annual Session.

The study of the physician abuses of insurance companies is now going on, in cooperation with insurance groups. Much information is expected to be obtained. This report also will be given to the Council before the 1951 Annual Session.

Respectfully submitted,

H. GORDON MACLEAN, *Chairman*

COMMITTEE ON MEDICAL EDUCATION AND MEDICAL INSTITUTIONS

To the President and the House of Delegates:

The Committee has had no meetings and no business has been referred to it by the officers or Council.

The problems of financing the five medical schools and the teaching hospitals in California should be considered by the Association.

Respectfully submitted,

LOREN R. CHANDLER, *Chairman*

COMMITTEE ON MEMBERSHIP AND ORGANIZATION

To the President and the House of Delegates:

Membership in the California Medical Association shows a growth in 1950 commensurate with the increase of medical licentiates in the state during the same period. Los Angeles County still leads with 4,535 members, as contrasted with 6,920 licentiates in the same area. The California Medical Association has now become the second largest state association in the nation.

The wisdom of increasing state association membership with special drives or by other means has been previously discussed. It seems to be the consensus of opinion that the natural growth of this our organization is consistent with the growth of organized medicine throughout the nation. Several small population areas in the state show little or no growth during the past few years, but these could be anticipated by the static condition of medical and general population.

Herewith is appended a resume of membership by counties given out by the executive office of the California Medical Association.

Respectfully submitted,

CARL L. MULFINGER, *Chairman*

C.M.A. County Society Membership Totals For Calendar Year 1950

County Medical Societies	Membership in 1949	Number Licensed Physicians (1949 Directory)	Membership in 1950	Number Licensed Physicians (1950 Directory)
Alameda-Contra Costa	894	1,408	957	1,485
Butte-Glenn	52	67	60	76
Fresno	206	232	217	254
Humboldt	41	60	54	59
Imperial	31	39	36	45
Inyo-Mono	11	15	8	17
Kern	116	182	126	205
Kings	24	30	22	29
Lassen-Plumas-Modoc	18	27	21	31
Los Angeles	4,261	6,672	4,535	6,920
Marin	71	115	74	127
Mendocino-Lake	28	44	23	53
Merced-Mariposa	39	62	36	47
Monterey	105	142	111	158
Napa	44	76	47	79
Orange	202	278	207	292
Placer-Nevada-Sierra	47	74	49	72
Riverside	110	173	113	180
Sacramento	238	292	249	295
San Benito	7	9	7	11
San Bernardino	227	306	238	320
San Diego	473	731	492	780
San Francisco	1,319	2,179	1,376	2,240
San Joaquin	142	194	140	177
San Luis Obispo	41	55	45	56
San Mateo	173	273	210	302
Santa Barbara	137	177	147	187
Santa Clara	303	431	323	479
Santa Cruz	60	83	63	90
Shasta-Trinity	20	34	22	36
Siskiyou	15	19	15	22
Solano	60	103	60	106
Sonoma	95	115	99	128
Stanislaus	69	99	85	106
Tehama	9	13	11	13
Tulare	72	88	78	98
Ventura	62	110	66	115
Yolo	26	30	31	31
Yuba-Sutter-Colusa	37	43	39	47
Totals	9,885	15,080	10,492	15,768

COMMITTEE ON POSTGRADUATE ACTIVITIES

To the President and the House of Delegates:

During the year of 1950, this Committee has met once every two months with a full attendance to plan the program and activities for the counties and the regions which do not have an active local postgraduate program.

Your Committee wishes to thank the Council of the C.M.A. for its active cooperation in its plans and for providing adequate funds, clerical help and office space to carry out the various projects.

Outside of the various metropolitan areas, many of the county societies are small and unable to provide, for themselves, an adequate program on the newer procedures in medicine and surgery. Your Committee has divided the state into five regions as follows: North Coast counties, West Coast counties, Sacramento Valley counties, San Joaquin Valley counties, and Southern counties. Each of these regional programs to be arranged by the postgraduate department of one of the five medical schools in the State of California respectively.

In accordance with this, institutes or conventions with lectures and demonstrations have been held for two days in Santa Barbara in October, in Fresno in November, in Riverside in January, in Sacramento in February, and in Santa Rosa in March.

In addition the Committee has furnished programs of shorter length for Redding, Marysville, and Bakersfield. Others are planned for several of the county societies during the spring of 1951.

To direct this work, Dr. C. A. Broaddus of Stockton was appointed as Director of Postgraduate Activities in February 1950, and provided with a secretary and a local office in Stockton.

For the year 1951-52 a second series of meetings is planned for the five regional areas. Each program will be planned by a local committee in conference with the head of the postgraduate department of one of the five medical schools and the director of postgraduate activities of C.M.A. The Committee is certain in view of attendance, that these conventions will become larger, and with better programs will interest many other groups in their attendance.

A statewide advisory committee met in San Diego in the spring of 1950, consisting in addition to your Committee of the following: Drs. Arnot, Brock, Chamberlain, Dozier, Halverson, Kinney, Molony, Sr., McClendon, Mettier, Northway, Rosenow, Thienes, Walton, and Weinberg. Many valuable suggestions were received and your Committee recommends that more of these meetings be held from time to time.

In addition to the regional conventions, your Committee is available to help local county societies in any manner in their efforts to put on local postgraduate programs for their members. Your Committee intends to cooperate with the various medical societies and commissions and assist them in making contacts with local groups.

Your Committee requests the House of Delegates that the Council of the C.M.A. be directed to continue the allocation of funds for the support of this committee in making possible postgraduate opportunities for its members.

Your Committee feels elated over the enthusiastic reception of their program of postgraduate refreshment by the members of the California Medical Association. Your Committee feels that the pattern of postgraduate activities in this state is one that could well be copied by all other states. These meetings have been accepted by the Academy of General Practice, and certified attendance at them enables the general practitioner to fulfill his postgraduate requirements as specified by the Academy of General Practice.

The C.M.A. is to be congratulated in fulfilling its mission to its membership in making postgraduate opportunities available to them.

Respectfully submitted,

JOHN C. RUDDOCK, M.D., *Chairman*

COMMITTEE ON PUBLICATIONS

To the President and the House of Delegates:

CALIFORNIA MEDICINE continues to improve. It holds a high place among medical publications. Its subject matter is well selected. Its advertisements are well displayed. In these rapidly changing times, it keeps pace with our changing conditions. Your committee feels that the only major changes to be made in our publication will be those that of necessity must be made in stride with mobilization for defense.

Respectfully submitted,

GEORGE I. DAWSON, *Chairman*

COMMITTEE ON SCIENTIFIC WORK

To the President and the House of Delegates:

The Committee on Scientific Work held two meetings during the year and two meetings with the section officers.

The 1951 Scientific Program will be changed somewhat from that of previous meetings. Two afternoons have been kept free to allow the House of Delegates to meet at an earlier hour. Each section has been limited to two sessions exclusive of joint sessions.

At the request of this Committee the Chairman of the Council reactivated the Committee on Local Arrangements. It was felt that this latter committee could render valuable help as the Los Angeles meeting may be quite large.

The policy of not sanctioning the meetings of other medical organizations during the three and one-half days required for the State Meeting has been maintained.

The C.M.A. Press Officer, Mr. Robert Edwards, will again be in charge of the press coverage. His excellent work last year in San Diego should be commended.

There will be a "Meet the Press" luncheon on Saturday, May 12, as was held last year.

Section aides, renamed section executives, have been appointed by each section to be present at section meetings and to facilitate in every way possible their respective programs. It is upon the satisfactory functioning of these section executives that the smoothness of section meetings will depend.

Respectfully submitted,

ALBERT C. DANIELS, *Chairman*

REPORT OF EDITORIAL BOARD CALIFORNIA MEDICINE

To the President and the House of Delegates:

There was no change in the membership of the Editorial Board during the past year. No formal meetings of the Executive Committee of the Board were held.

The members of the Editorial Board are:

Chairman of the Board:
Dwight L. Wilbur, San Francisco

Executive Committee:
Albert J. Scholl, Los Angeles
H. J. Templeton, Oakland
Edgar Wayburn, San Francisco
Dwight L. Wilbur, San Francisco

Allergy:
Frank J. Crandall, Jr., Los Angeles
Samuel H. Hurwitz, San Francisco

Anesthesiology:
William B. Neff, San Francisco
Charles McCusky, Los Angeles

Dermatology and Syphilology:
Paul Foster, Los Angeles
H. J. Templeton, Oakland

Ear, Nose and Throat:
Lawrence K. Gundrum, Los Angeles
Lewis Morrison, San Francisco

Eye:
Frederick C. Cordes, San Francisco
A. R. Robbins, Los Angeles

General Medicine:
Maurice Sokolow, San Francisco
O. C. Railsback, Woodland
Edgar Wayburn, San Francisco
John Martin Askey, Los Angeles
W. E. Macpherson, Los Angeles

General Surgery:
Frederick L. Reichert, San Francisco
C. J. Baumgartner, Beverly Hills

Orthopedic Surgery:
Frederick C. Bost, San Francisco
Hugh Jones, Los Angeles

Thoracic Surgery:
John C. Jones, Los Angeles
H. Brodie Stephens, San Francisco

Industrial Medicine and Surgery:
Rutherford T. Johnstone, Los Angeles
John E. Kirkpatrick, San Francisco

Plastic Surgery:
George W. Pierce, San Francisco
William S. Kiskadden, Los Angeles

Obstetrics and Gynecology:
Daniel G. Morton, Los Angeles
Donald G. Tollefson, Los Angeles

Pediatrics:
E. Earl Moody, Los Angeles
William G. Deamer, San Francisco

Pathology and Bacteriology:
Alvin G. Foord, Pasadena
Alvin J. Cox, San Francisco

Psychiatry and Neurology:
Karl M. Bowman, San Francisco
John B. Doyle, Los Angeles

Radiology:
R. R. Newell, San Francisco
John W. Crossan, Los Angeles

Urology:
Lyle Craig, Pasadena
Albert J. Scholl, Los Angeles

Pharmacology:
Hamilton H. Anderson, San Francisco
Clinton H. Thienes, Los Angeles

Public Health:
George Uhl, Los Angeles
Charles E. Smith, San Francisco

Respectfully submitted,

DWIGHT L. WILBUR, *Chairman*

PHYSICIANS' BENEVOLENCE COMMITTEE

To the President and the House of Delegates:

The Benevolence Committee has continued its previous policies in the past year, contributing regularly to the work of the Los Angeles County Physicians' Aid Association and taking care of needy physicians and their families in other counties. A complete financial report is shown herewith and is self-explanatory:

BENEVOLENCE FUND
RECEIPTS AND EXPENDITURES
January 1950 Through December 1950

January 1, 1950, Balance:		
Cash		$10,377.89
U. S. Treasury Bonds		22,000.00
		$32,377.89
Receipts:		
Interest on Savings Account	$ 20.82	
Interest on U. S. Bonds	440.00	
Contribution—Woman's Auxiliary	3,555.16	
Contribution—C.M.A.	10,318.00	14,333.98
		$46,711.87
Expenditures:		
Premium on U. S. bonds purchased	$ 42.00	
Benefits paid	8,464.84	8,506.84
December 31, 1950, Balance		$38,205.03
Cash	$11,205.03	
U. S. Treasury Bonds	27,000.00	
	$38,205.03	

The Committee wishes to call attention to the fact that its investment account in U. S. Treasury Bonds returned $440 in interest income last year and will show an even better return for 1951. Interest funds are reinvested as they are received.

The Committee wishes to thank all those who have cooperated so well in its activities in the past year, especially those physicians and members of the Woman's Auxiliary who have taken the time and trouble to bring needy cases to its attention and to aid in the proper disbursement of funds. Within the past year two polio cases have been given assistance and other cases of need have been assisted. One recipient of aid died within the year and the Committee contributed to a proper burial.

The chairman wishes especially to express his thanks to Doctors Elizabeth Mason-Hohl and John W. Sherrick, committee members, for their prompt and unfailing response to all calls for assistance. Their decisions have been immediately forthcoming in all instances, and without their good work the results of the committee would be less satisfactory.

Full credit goes to the Woman's Auxiliary to the California Medical Association, which last year contributed $3,555.16 to the Benevolence Fund. The Auxiliary has increased its annual contribution in each of the past few years and the 1950 sum is a new high. This generous response by the Auxiliary has made it possible to carry on the work of the Committee and to add to the permanent endowment fund which is accumulating from year to year.

In view of the increased costs of necessary items of relief and considering that we now have a backlog of funds which would enable us to do so, it is thought by your Committee that an increase of allowances should be made to those who require help, and, unless otherwise directed, your Committee will make more generous allowances in the future.

The Los Angeles County Physicians' Aid Association has just opened and dedicated a home for the care of the needy who require home or institutional care. Your Committee will later submit to the Council of the C.M.A. a statement of conditions and expenses involved in securing care at the Los Angeles home for possible cases outside of that area and, if approved, will make arrangements with the Los Angeles Physicians' Aid Association for such services.

Respectfully submitted,

AXCEL E. ANDERSON, *Chairman*

COMMITTEE ON PUBLIC RELATIONS

To the President and the House of Delegates:

The Committee on Public Relations has stood by during the past year, ready to serve under direction of the Council. The actual public relations activities of the Association have been under the supervision of the Council, through outside public relations counsel and through the Advisory Planning Committee and the Committee on Medical Economics, both of which have devoted their efforts to working on specific phases of the over-all plan of public relations. Accordingly, this Committee has been inactive. The Committee is composed of the chairmen of the standing committees of the Association, with the executive secretary named as director of public relations.

Respectfully submitted,

JOHN HUNTON, *Director*

ADVISORY PLANNING COMMITTEE

To the President and the House of Delegates:

The Advisory Planning Committee has met on the day preceding each Council meeting, has discussed various matters for recommendation to the Council for consideration and has previewed the items to come before the Council on the following day. The recommendations of the committee have appeared in the published reports of the Council.

Most important item originating with the committee in the past year has been a program of public relations at the level of the county medical society and its individual members. A statement of the objectives of such a program has been submitted to the Council, together with a recommendation for activation of progressive portions of the entire program. Additional reports on this subject are to be made by the committee and the activation of further portions of the program will be recommended when such procedure is indicated.

Respectfully submitted,

JOHN HUNTON, *Chairman*

C.M.A. BLOOD BANK COMMISSION

Annual Report 1950

To the President and the House of Delegates:

Events of the past year have focused an unusual amount of public attention upon the work of our blood banks; this interest was due in part to the Korean war and to the successful participation by the numerous C.M.A.-sponsored blood banks in the Armed Forces blood program. However, your Commission members realize that the accelerated program, dramatic as it was, and is, was made possible by careful planning through the years 1946 to 1950.

Our state is still not completely covered by blood bank facilities, but it is better organized than at any time in the past. Each new community blood bank brought into operation during the last three years is now worth more than a regiment of infantry. *Blood is more valuable than bullets.*

Accomplishments: 1. Sponsored and actively aided in the creation of the following three blood banks: (a) Tri-Counties Blood Bank. This bank is situated in Santa Barbara and completely serves San Luis Obispo, Santa Barbara, and Ventura counties. (b) Northern California Community Blood Bank is situated in Eureka. This bank serves Humboldt and Del Norte counties. (c) San Diego Blood Bank. This bank opened December 1, 1950, and will service San Diego and part of the Imperial Valley.

2. Organization stage: (a) San Bernardino-Riverside-Redlands regional bank. The bank will be situated in San Bernardino. (b) Kern County Blood Bank will be located in Bakersfield and will serve the lower part of the San Joaquin Valley.

3. Suggested bank: (a) Redding-Red Bluff area. This northern zone has the population, the technical medical know-how, and sufficient active hospital beds to support a blood bank. Creation of such a vital institution should be the chief concern of the respective medical societies in 1951.

Red Cross: A reciprocity agreement was signed with the American National Red Cross on September 29, 1950. The agreement states: (a) Inter-blood-bank exchanges will be settled on a unit-for-unit basis. (b) There will be an exchange of funds, wherever necessary to balance accounts, for the actual per unit cost of processing blood. (c) Territorial boundaries to be served by each of the banks operating under the two systems will be defined, thus allowing for expansion. Plans for expansion are subject to the approval of the local county medical society. (d) American Red Cross volunteers may be provided at the request of any of the participating blood banks. (e) The agreement may be terminated by either party on a 60-day written notice.

If the intent of this agreement is faithfully carried out, it will provide better service to the people of the state and redound to the credit of both the Red Cross and medicine.

Armed Forces Blood Program: The system of C.M.A.-sponsored blood banks was the first integrated system to offer its widely dispersed facilities to the U. S. Government when the Korean war started. This offer of assistance was made by telegram July 11, 1950, to Dr. Richard Meiling, director of the combined medical services. Seven of our blood banks have played a dominant role in the "Blood for Korea" program. Practically all of the whole blood flown to Korea was drawn on the Pacific slope. The San Diego Blood Bank was prevented from participating in the program due to a most unfortunate set of circumstances, circumstances which should never have been allowed to occur. The director of that bank and some of his committee deserve special commendation for their forthright stand against injustice and unpatriotism. They will be amply vindicated in the future, for their course was right, honest, and taken on behalf of their medical responsibility to their city, their county, and their state.

The Red Cross assigned the C.M.A.-sponsored blood banks a December quota of 10,000 units; 9,452 units were distributed. Some of the banks went over their quotas, and a couple did not, primarily because they did not enter the program the first part of December and because Red Cross donor recruitment varies in each locale. The above blood production was over and above the blood banks' civilian service.

Licensure: Instituted the necessary procedure for obtaining biologics licensure from the National Institute of Health for our state banks that were not already under this department's jurisdiction. This license was necessary before any bank can participate in the Armed Forces program. The National American Red Cross is the agent that decides which bank will draw blood. This procedure should be liberalized immediately as it is capable of misuse and has already prevented one of our banks from participating in the program which is of vital importance during the present emergency. Organized medicine should have a voice in decisions on the granting of licenses so that an impartial technical and administrative analysis can be made on all blood banks. All banks operating under our system more than meet the minimum requirements of the N.I.H.

Financial Loans: A non-interest-bearing loan was made by the C.M.A. to the San Diego Medical Society for the creation of a community blood bank, and money was offered to certain banks for the purchase of emergency supplies, i.e., for civilian disaster preparedness.

Brochure: A booklet was published, entitled "California's Life Line." This brochure received an enthusiastic reception, and many requests for it were received from the nation and from foreign countries. A second edition is being readied and brought up to date to meet the continuing demand.

Meetings: The American Association of Blood Banks met in Chicago; it was attended by the chairman of your Blood Bank Commission. Technical and administrative problems were widely discussed and a great deal of pertinent work accomplished. Our exhibit was a highlight of the meeting and received considerable attention.

Many trips were undertaken throughout the state. Eureka, Santa Rosa, Sacramento, San Diego, and Santa Barbara were a few of the banks visited. The spirit of cooperation between these institutions is noteworthy and most stimulating.

Exhibits: Our blood bank system exhibit was shown during the C.M.A. meeting in San Diego and at the A.M.A. convention in San Francisco. Bakersfield, Santa Rosa and San Diego also used the exhibit. It was this same presentation which was shown in Chicago during the American Association of Blood Banks meeting.

Clearing House: A central office for our state system of non-profit blood banks was created and is located at 2180 Washington Street, San Francisco, telephone JOrdan 7-6400. This central agency will greatly expedite the ever-increasing amount of administrative business. The potentialities for this agency are tremendous. Coordination, integration, statistics, research, inter-blood-bank exchange of blood and funds, etc., are but a few of the immediate pressing developments which must be expanded.

It is impossible for me to express adequately my gratitude and sincere thanks to the Executive Council of the C.M.A. They have supported me on all controversial issues and they have been a tower of strength when downright force was required. Without their support the "California Life Line" would not be a reality. That "Life Line" was able to stretch to Korea and provide blood to our wounded. The banks constituting the "Life Line" *were ready.* Nothing must sever or try to discredit that "Life Line"; it plays too important a role in California's medical preparedness program to allow it to be sabotaged. Constant vigilance is the watchword.

To the members of the Blood Bank Commission go my admiration and thanks for their many hours of labor. Their timely advice and assistance greatly lightened my work. Their only reward has been to see the steady, healthy growth of our program.

The medical directors and the managing directors of the various blood banks have cooperated in full measure. Their contribution to the over-all state plan is outstanding in California's medical history. Working harmoniously together for the common good, they have set a fine example for others, and have demonstrated to the nation that an integrated non-profit blood bank system is sound, stable, and solvent in blood.

Mrs. Charles D. Hemphill, our administrative assistant, has performed yeoman service. The entire Commission has benefited by her uncanny grasp of the over-all situation; I could not have carried out my task without her loyal, self-effacing assistance. Thanks, Bernice!

What of the future? Time will tell. We can take some pride in the knowledge that our State has a better blood bank system than ever before. Much work still remains to be done, however, before we can truthfully say that there is complete blood coverage for California. That is our goal —with every member's assistance we may reasonably expect to reach that goal in 1951. It is a challenge to Medicine— and I predict *Medicine can do the job.*

Respectfully submitted,

JOHN R. UPTON, *Chairman*

COMMITTEE ON RURAL MEDICAL SERVICE

To the President and the House of Delegates:

The fourth California Rural Health Conference was held in Fresno, January 13, 1951. The conference subject was "Rural Hospital Problems," which was divided into the four subjects of:

1. Prospectus for the Hospital
2. Plans and Construction
3. Governing Body, Hospital and Medical Staff Relationships
4. Problems of Operation

Dr. Neil J. Dau, Councilor for the Fourth District, represented the California Medical Association, and emphasized the importance of maintaining high professional standards, the use of public funds only when absolutely necessary, and that over-building of hospital beds and facilities can be a burden on the community.

Dr. Carroll B. Andrews, conference chairman, pointed out the facts that small hospitals have many peculiar problems which have little or no precedent established, and therefore require careful individual application to be successfully worked out.

The luncheon address by Mr. A. A. Aita, administrator of the San Antonio Community Hospital, Upland, on "The Rural Hospital—A Community Responsibility," emphasized the importance of continually enlisting the community in the various hospital projects. He pointed out that by continuous participation, the public accepted their share of the burden for proper operation.

Summaries of the conference were presented by Von T. Elsworth, research and economic advisor for the California Farm Bureau Federation, who complimented the Committee on Rural Medical Service and the California Medical Association for sponsoring these conferences between the medical profession and farm groups representing the laymen. His pertinent comment was: "The average citizen is also concerned with the problems because he pays the bill."

Dr. Robert Dyar, California Department of Public Health, commended the conference for the attitude of tolerance displayed as the key to the successful solution of the rural hospital problems. Careful consultation, detailed investigations of local conditions and factors involved in the problems, together with the assistance and guidance of the local physicians, was stressed.

The committee is encouraged by the general attitude, the information presented and discussed to the mutual advantage of all who participated, to continue its work in the rural medical service field.

The chairman of the Committee attended the American Medical Association-sponsored National Health Conference at Memphis, Tennessee, February 22 to 24.

Respectfully submitted,

CARROLL B. ANDREWS, *Chairman*

COMMITTEE ON INDUSTRIAL HEALTH

To the President and the House of Delegates:

In the 1950 report of the Committee on Industrial Health we referred to efforts at the national level to clarify the confused situation in regard to standing orders for industrial nurses. We hoped that a satisfactory statement of principles might be forthcoming from the national groups concerned, and failing this we anticipated the formulation of a policy at the state level. Since the national statement did not materialize, a statement of principles was drawn up and was presented to the Council of the California Medical Association in September 1950. Action was postponed by the Council and the statement has not as yet been presented again.

There are approximately 750 industrial nurses employed in the state of California who are working daily among probably half a million employees. We believe this represents a large enough segment of the nursing profession and a large enough segment of the population of California that a harmonious understanding of the principles under which these nurses function is essential to the broad public relations of the medical profession.

The technical language of the Nursing Practice Act and of the Medical Practice Act, and the anomalous situation in regard to the rendering of first aid by laymen, have led to various beliefs as to how far first aid care in industry should be carried out by laymen or by registered nurses. Typical of the confused picture is the erroneous belief, which does exist in some quarters, for instance, that a registered nurse is limited by the Medical and Nursing Practice Act, whereas laymen are not limited in any way.

It is the belief of this Committee that the industrial nurse is a professional person—with professional standards—and that these professional standards should be defined in principle, and that we may count fully on the nurses' associations to support nurses in keeping within these principles and discourage them from violations. It is our belief that these principles can and should be defined and that success in this project will result in an improved relationship between the medical profession and its sister profession, nursing. Long-established precedent in hospital and home nursing has been set up whereby the nurse looks to the physician for orders and guidance, and we feel that it is obligatory that means for establishing or strengthening such guidance for the industrial nurses be found. In the absence of such a statement of policy, beliefs are being implanted by pamphlets and educational literature from other agencies and from other states, which may not be in harmony with the beliefs of the California Medical Association. In the absence of a yardstick established by the California Medical Association, it is impossible to evaluate such material with any degree of assurance.

We again emphasize that the standing orders for industrial nurses or some other authoritative guides as to ethical procedures, have been requested by the nursing organizations in order that they may keep within safe and ethical limits of their field. At present, in many instances, they are subject to pressures from various sources to exceed the proper responsibilities of the nursing profession. With a clear-cut authoritative definition to refer to they will be in a position to insist on referring to the medical profession those patients who should have medical care. The nurse in industry who, with or without conscious intent, may have been encroaching on the practice of medicine, however, will have no excuse for continuing to do so in the face of a code of principles when and if it is issued and supported jointly by the medical and nursing professions and by industry.

We believe it should also be kept in mind that during World War II the tremendous pressure for production and the shortage of medical men resulted, through expediency, in an increased acceptance of medical responsibilities by nurses which should have been abandoned when the urgency was ended. In view of the fact that at the present time it appears possible that we may be confronted with a similar situation, we believe that the principles should be stated now, to stand as a water-mark to return to should the flood of war again engulf us.

Your Committee feels that the presence of a statute is not in itself an educational program. Legal language, while specific, is subject to various interpretations and we feel that education by a statement of principles is absolutely essential for true, long-term education. Furthermore, your Committee believes that laws follow public beliefs, and do not create them. Therefore, we believe that it is to the interests of the California Medical Association and of the nursing organizations not to abandon efforts to find a statement of principles or a code of ethical practices which is acceptable to both professional groups. Efforts to formulate such a policy are continuing at the national level and it may be that this year will see such a statement issued jointly by the American Medical Association, the American Association of Industrial Nurses, the American Association of Industrial Physicians and Surgeons and other interested national groups. Should such a statement be issued it may be evaluated by the California Medical Association as to its worthiness of their approval.

Failure of such a statement to be issued at the national level or to be accepted by the California Medical Association should it be issued, would, we believe, call for another effort to prepare another statement which would be presented for consideration by the Council.

Ultimately, we believe, the Committee on Industrial Health of the California Medical Association will take a part in an all-over program—statewide—by many agencies and employers and employee groups, to improve industrial health conditions. This will demand cooperation in various areas with many official and non-official agencies. We do not anticipate progress being made in this direction, however, until we have a healthy working relationship established between the industrial nurses and the physicians in their own fields, which will free their attention so that they may concentrate on jointly contributing to broader fields of industrial health.

If your Committee on Industrial Health is perpetuated, we believe its efforts should continue to be channeled toward clarifying the field of function of the industrial nurse by a positive acceptable statement and eliminating present confusion and bewilderment.

CHRISTOPHER LEGGO, *Chairman*

SPECIAL COMMITTEE ON C.P.S. ADMINISTRATIVE CHANGES

To the President and the House of Delegates:

The committee appointed by you to "look into certain aspects of the administration of California Physicians' Service" met at the St. Francis Hotel, San Francisco, on July 9, 1950. All members of the committee were present. Present by invitation were William L. Bender, M.D., Sidney J. Shipman, M.D., C.M.A. Council Chairman, and Henry L. Gardner, M.D., Secretary C.P.S.

The letter appointing this committee was somewhat indefinite, but the committee decided to limit its deliberations to the consideration of the advisability and desirability of the establishment of a special committee of C.M.A. similar to the coordinating committee recommended by Dr. Bender in a resolution submitted to the C.M.A. House of Delegates in 1949.

The committee was informed that Dr. Bender's resolution was illegal in that it sought to put compulsion upon the Board of Trustees of C.P.S. Any similar committee, therefore, must depend entirely upon voluntary cooperation of the Board of Trustees of C.P.S. This committee feels that this cooperation would be forthcoming.

After considerable discussion the committee recommends the creation of a liaison committee of C.M.A. to work with the Board of Trustees of C.P.S. in an advisory capacity in matters of policy of far-reaching economic and political import.

The committee further recommends that this liaison committee shall be composed of the President of the C.M.A., who shall act as chairman, the President-elect of the C.M.A., the Speaker of the House of Delegates of the C.M.A., the Chairman of the Council of the C.M.A., President of the Board of Trustees of C.P.S., the chairman of the C.M.A.

Legislative Committee, and two members of the House of Delegates who shall hold no other C.P.S. office, to be nominated from the floor of, and elected by the House of Delegates for a term of two years (excepting that one of the initial members shall be elected for a one-year term), to serve no more than two consecutive terms. Since the meeting of this committee a communication has been received from Dr. Bender suggesting the addition of the immediate Past President of the C.M.A. to the membership of the liaison committee. This was not passed on by the entire committee, but seems like a good recommendation to the chairman.

In recommending selection of these top level officers of C.M.A. as the nucleus of this liaison committee, we were of the unanimous opinion that only members who had had years of close contact with the administrative problems of both C.M.A. and C.P.S. would have sufficient background, knowledge, and experience in these matters to make the committee function efficiently.

Respectfully submitted,

ORRIN S. COOK, *Chairman*

ANNUAL REPORT OF THE CANCER COMMISSION

To the President and the House of Delegates:

The Cancer Commission has conducted an extensive program of cancer conferences throughout the state during the past year. At the beginning of the year the opportunity of a conference was offered each county medical society in the non-metropolitan areas. Emphasis, however, was placed on developing regional conferences (15 of which were originally planned). Many members of the California Medical Association participated in these conferences as guest speakers. The expense has been shared by the California Medical Association and the California division of the American Cancer Society.

The program for 1951 is to schedule "Cancer Programs" in each of the county medical societies at least once during the year on the afternoon and evening of their regularly scheduled meeting date.

In June 1950 Dr. Frederick R. Hook, medical director of the Cancer Commission, became ill, temporarily interrupting an excellent program of professional educational activities which he had been carrying out. His resignation was accepted effective September 1.

Succeeding Dr. Hook as medical director of the Cancer Commission is Dr. Franklin C. Hill, who assumed his duties October 1. Dr. Hill had recently been placed on the retired list of the Navy Department, his last assignment having been as medical officer in command of the U. S. Naval Hospital, Long Beach.

Refresher courses for practicing physicians were held last February in Los Angeles and Oakland. These courses were co-supported by the national office of the American Cancer Society, which paid the expenses of three participating Eastern speakers for these programs. For 1951 it is planned to omit refresher courses in these metropolitan areas, except for support of a refresher course for dentists in Southern California (San Diego Dental Society, February 24) and the program of the alumni of the College of Medical Evangelists in Los Angeles in March.

The present edition of "Cancer Commission Studies" which was completed last year has been distributed to the physicians of California. In a number of instances a considerable number of copies have been distributed to physicians out of the state. Comments have been laudatory. Again, grateful recognition is given to the authors of these studies and to the editorial committee consisting of Doctors Dobson (chairman), Berne, Pflueger and Kenney for their work.

At the present time there are about 62 tumor boards in California, of which 49 have been approved by the Cancer Commission. A majority of these boards have been visited and inspected by Dr. Hill since last October. Those boards which have not been approved are being encouraged and given all assistance possible in their efforts to meet the Minimum Standards for Approval established by the Cancer Commission. Approval by the Cancer Commission is a prerequisite before financial support can be given to a board by the American Cancer Society.

The Cancer Commission is maintaining its close cooperation with the California division of the American Cancer Society, and members of the Commission are taking an active part in the board of directors and executive committee and all other committees at the state level. The Commission commends the exceptional lay leadership in this organization for their rare judgment and intensive work and for their fine cooperation with the medical profession. The Commission, working jointly with the California division, agreed to share the costs in distributing the new bimonthly journal, *CA*, to 4,600 practicing physicians in the state. Initially, this journal will be distributed chiefly among those physicians who are in general practice. *CA* is a new journal of the American Cancer Society designed to keep busy practicing physicians up to date with newer developments in not only research but diagnosis and treatment. The first number is datelined November 1950. At the end of a year a survey will be conducted to determine usefulness of the journal and possible wider distribution. New professional films on cancer developed by the national office of the American Cancer Society in cooperation with the National Cancer Institute have been shown before a number of professional audiences and county medical societies this past year.

Additional county branches of the American Cancer Society have been organized in both the southern and northern counties. Before a county branch can be organized it must have the approval and cooperation of the county medical society in each instance, for the medical policy and projects of the county branch must have the full approval and endorsement of the medical profession. The state division recognizes that cancer control is both a medical and community problem and that any county branch will succeed in direct proportion to the interest and cooperation of the county medical society. The function of the county branch in making the public cancer-conscious and sending potential cancer patients early to their own physicians requires the best and most energetic medical leadership in any county for its accomplishment. The Cancer Commission urges the cancer committee of each county medical society to give continued untiring support to the county branch of the American Cancer Society. The lay educational program is bringing definite and measurable results.

In order to keynote the important role of the county medical society in the cancer control program and to serve as a guide in the cooperative relationship with the local county branch of the Cancer Society, the Commission has re-edited and brought up to date the brochure, "The Cancer Committee of the County Medical Society." This new edition became available for distribution January 1, 1951.

The Cancer Commission continued to study the problem of early cancer detection, reaffirmed its stand against "Cancer Detection Centers," and reemphasized its belief that each private physician's office should be a center for detection of cancer. At the January 19 meeting of the commission in Los Angeles, the report of Dr. Garland's committee on "Cancer Detection in the Private Physician's Office" was approved. This provides for a realistic approach with emphasis placed upon a routine examination of accessible sites for the possible presence of incipient or established neoplastic disease. It is hoped that the plan will be given a

trial run during the coming year by one or two "pilot" county medical societies, after which the experience will be evaluated by the Cancer Commission for possible expansion on a statewide level. The plan places responsibility for early detection of cancer in the hands of the practicing physician in his private office.

Two pre-convention conferences will be held on May 12, sponsored by the Cancer Commission. The Conference on Microscopic Tumor Pathology will place emphasis upon tumors of the intestinal tract. David A. Wood will be the moderator. James Kahler, chairman, and Ernest M. Hall, secretary (with the assistance of the Los Angeles Tumor Registry) are preparing the material for this conference. Members of the C.M.A. who are interested in the surgical pathology of intestinal tumors may avail themselves of this opportunity. The pre-convention Conference on Radiology is being prepared by R. F. Niehaus, chairman, and Merrell Sisson, secretary. This conference will be divided into sections on diagnosis and treatment. It also is available to members of the C.M.A.

The Cancer Commission has taken interest in and given support to the recently created Los Angeles Tumor Registry. This registry deserves much credit for the excellent preparation of lantern slides and microscopic slides used at the last two microscopic conferences sponsored by the Commission in San Diego last April and San Francisco last December.

The Commission sincerely appreciates the cooperation and support of the President and the Council in their effort to represent the California Medical Association in the cancer control program.

Respectfully submitted,

LYELL C. KINNEY, *Chairman*

INDUSTRIAL ACCIDENT FEE SCHEDULE COMMITTEE

To the President and the House of Delegates:

The original report of this committee was published in CALIFORNIA MEDICINE, Volume 73, November 1950, pages 447-449. The following summary presents the activities of this committee to present date (February 8, 1951).

A meeting of the advisory committee of the Industrial Fee Schedule Committee was held at the Biltmore Hotel on Friday, November 10, 1950. Several subjects were presented for general discussion, among them that of multiple schedules. It is becoming apparent that there are a number of these schedules being printed in the state having to do with medical and surgical fees. Some have been made on an indemnification plan entirely and it is pertinent that many of these new schedules are based on a much higher fee level than the industrial schedule. The schedules we are most interested in are those being formed by the various labor unions. These plans are on a pure indemnification level whereby the employer is paying for the coverage for the laborer and, with an additional fee, coverage is being extended to the members of that laborer's family. The insurance carriers are writing the schedule any way that the labor union wishes to have it written and adjusting their premiums accordingly.

We discussed at length the recent successful appeal on the part of the insurance carriers before the office of the Insurance Commissioner of the State of California, wherein they requested an increase in Workmen's Compensation insurance rates in the amount of 6.86 per cent. This application was based on the claim that the 1950 schedule of medical and surgical fees was causing an increase of 2.45 per cent in premium costs and that the new permanent disability ratings warranted a 4.41 per cent premium increase. A hearing on this matter was held in San Francisco and a second hearing in Los Angeles. The application was based on the claim that the 1950 schedule of medical and surgical fees was causing an increase of 2.45 per cent in premium costs and that new disability costs warranted a 4.41 per cent premium increase.

The Insurance Commissioner granted this increase in premiums to the compensation carriers.

In presenting their testimony in support of their application the carriers acted largely through the California Inspection Rating Bureau, a quasi-official organization maintained by the carriers themselves and recognized as a fact-finding body by the Insurance Commissioner in setting premiums for this type of business. The California Inspection Rating Bureau presented a number of exhibits in support of its testimony and we have had the opportunity to examine and analyze the figures on thes exhibits.

Without attempting to go into an analytical study of these figures, we can give you the underlying figures which indicate what portion of the premium dollar is actually paid to physicians for professional service. Some of these figures are:

Annual compensation insurance premiums	$100,000,000
Annual losses (1947 basis)	50,482,230
Medical costs (1950 basis)	18,125,348*

The California Inspection Rating Bureau presented as its principal exhibits on medical costs a study made of the payments to physicians and others for medical and allied services for the month of June 1950, as compared with an average month of 1947, when the 1946 schedule of medical and surgical fees was in effect. In making this study the bureau selected the ten largest compensation carriers and had daily study sheets prepared in the offices of each to show the payments to physicians on each day as compared with what the comparable payments would have been under the 1946 fee schedule. Thus they arrived at a straight comparison of medical fees under the old and the present fee schedules.

In all, these ten carriers wrote 80.6 per cent of the compensation premium volume in California and accounted for 80.3 per cent of the losses, which indicates a large sampling of the entire industry. Applying their premium percentage, we find that they wrote $80,600,000 in premiums.

In making the comparison of medical costs, the exhibits show that for June 1950, a total medical cost of $1,270,143 was incurred by these ten carriers, compared with $1,223,992 for the average month of 1947, or an increase of 3.77 per cent. If we apply that percentage increase to the total 1947 medical cost figure of $14,687,909, the indicated 1950 total medical cost would be $15,241,643. If we then apply to that total medical cost the percentage of 60.43 per cent shown for June 1950, as the percentage of total medical costs paid to physicians, we arrive at, roundly, $9,000,000 to be paid to physicians in 1950 for their professional services. This would constitute roundly 11 per cent of the premium income of this group of carriers.

Figured another way: The carriers show that actual payments to physicians for June 1950 were 12.54 per cent higher than they would have been under the 1946 schedule of medical and surgical fees. When this increase is added to costs for hospitalization and other items used in compiling "total medical costs" the increase of 1950 over 1947 comes to 6.92 per cent. (This figure is arrived at by using one set of hospital and other cost figures for both periods; there is no indication that these are actual costs in both instances.) Thus the increase in payments to physicians is used to ask for a 2.45 per cent increase in premium (which would indicate that physicians' fees alone accounted for 19.6 per cent

*Includes payments to hospitals and others; payments to physicians indicated at 60.43 per cent of total medical costs in one place and 58.1 per cent in another.

of total premiums) while in the exhibits themselves the carriers base their request for increased premiums on the increase in total medical cost. If we take 60 per cent of 19.6 per cent (the doctor's portion) we would arrive at 11.76 per cent of total premiums paid to the doctors.

In several places in the exhibits it becomes apparent that the doctor is actually paid for professional services somewhere between 55 per cent and 60 per cent of "total medical costs" and that "total medical costs" account for about 20 per cent of total premiums. Thus the doctor receives between 10 per cent and 12 per cent of the total premiums paid by policy-holders for their compensation insurance.

This figure has been about what we have calculated for some time and about what the latest annual report of the State Compensation Insurance Fund indicated. The insurance carriers have consistently lumped together payments to physicians, to hospitals and others under the category of "total medical costs" and have indicated their inability to bring out as a separate item the total amount paid to physicians or the ratio of such amount to premiums. However, the exhibit figures seem to definitely pin down the portion of the premium dollar which is actually paid to physicians for their professional services.

The foregoing observations stimulated a good deal of comment, but none of us on the committee felt that we were able to completely digest the material or to interpret it accurately. We felt that additional help was necessary and Dr. Madsen suggested that actuarial counsel be employed to investigate the whole matter of fees for this committee. He felt that the only approach which would be logical would be to base a study on the basic living standard and to measure the changes that have occurred between the date when a schedule was first approved by the Industrial Accident Commission and 1950.

Your negotiating committee, consisting of Dr. Carson, Dr. Maner, and the chairman, met with the insurance carriers in San Francisco on December 7, 1950.

The entire morning session was spent primarily with a discussion on the part of the various insurance carriers regarding simplification of the insurance report forms and simplification of the entire secretarial aspect of conducting a practice in industrial medicine or surgery. The insurance carriers have been very interested in this phase of the work and presented a plan to adopt four standard forms: (1) an initial report, (2) a small weekly compensation order which is to be made in duplicate postcard form so that it is very simple to figure out; (3) a monthly or semi-monthly supplemental report to indicate the progress of a case; and (4) a final report and bill.

The Industrial Accident Commission has taken an interest in this same plan and it has designed three simple forms for indicating the progress of any injury which would lead to a permanent disability. All physicians who do industrial medicine or surgery will immediately see the value of these various changes in eliminating a great deal of extra secretarial work and still furnishing a very complete report to the various insurance carriers.

The matter of the attitude of medicine and the insurance carriers toward the inquiry from the Senate Interim Committee was discussed at length. Mr. Snow spoke for the insurance carriers. His comments were to the effect that in general the insurance carriers did not wish to have any further authority delegated to any governmental agency which might influence their ability to conduct their business as an insurance company. He felt that the government perhaps had too much influence upon the insurance business now. He mentioned that this move might be just another step toward not only socialization of medicine, but socialization of insurance in general.

As he talked, we presented this problem that perhaps we, as doctors, would be in a much better position to negotiate with an impartial group such as the Industrial Accident Commission than we have been with the insurance carriers in the past. We brought to his attention the fact that under existing laws any change in the industrial fee schedule would not be compensated for by an adjustment of premium rate until three years of experience had elapsed. This law, therefore, makes it impossible for the doctors of the State of California to negotiate an increase in fees with the 168 companies in the State of California who are writing compensation insurance. We suggested that if the insurance companies wanted to show good faith perhaps it would be wise for them to suggest or actually initiate legislation through the Legislature to allocate to the Insurance Commissioner of the State of California the power and ability to adjust changes of premium rate immediately upon any change in the fee schedule. As a protection, perhaps, the adjustment of the premium rate itself might be made retroactive over a period of three years, but at least it would enable the doctors and the insurance companies to negotiate directly without the bloc of the Insurance Commissioner's office preventing such negotiations from ever being accomplished.

We presented to the insurance men our request for an increase in fees based on the changes suggested at the meeting of our entire group on September 9, 1950, as follows:

First visit and report		$ 6.00
Follow-up office visit		4.00
Hospital visit		5.00
Home visit		6.00
Detention with a patient in critical condition beyond reasonable period	per hour	10.00
Detention after 7 p.m.	per hour	15.00

In offering these fees we agreed as doctors that all charges for the auxiliary office services incidental to an office visit should be eliminated. Surprisingly, this is a rather difficult thing to define accurately, but we implied, for example, that the injection of penicillin, intravenous injection or intramuscular injection, should be included with the charge except for the cost of medication supplied. We also suggested that a possible rewording of the schedule could be accomplished to allow for a lower fee for non-professional services which might include, for example, such services as those in which a patient reports to an office nurse only for minor dressings or some other minor procedure which does not require the presence or attention of the attending physician.

We were asked to comment upon or suggest some method of control over the recent increases that have been made by hospitals in the rates for professional services. A good many hospitals in this state have arbitrarily set up their own fees for services such as x-ray and laboratory, and have been demanding, and in most cases getting, fees which are above the present industrial rate schedule. Our comment was that we had no authority over this matter at all.

In accordance with the suggestion of Doctor Leo Madsen and of the advisory group the problem of employment of actuarial counsel was presented to the Council of the California Medical Association at its meeting in Los Angeles on January 27, 1951. The Council has appropriated funds to be allocated for use in employment of such counsel. No definitive plan has been made as yet but this matter will be worked out and we should have something concrete to show for our effort by the time of the Annual Meeting in Los Angeles, May 13-16, 1951.

Respectfully submitted,

FRANCIS J. COX, *Chairman*

ANNUAL COUNTY MEDICAL SOCIETY REPORTS

FIRST DISTRICT

Imperial, Orange, Riverside, San Bernardino, and San Diego Counties.

John D. Ball, Santa Ana, *Councilor.*

Imperial County Medical Society

During a period of 13 weeks the county medical society employed a local radio station to broadcast five-minute news briefs once a week in order to present organized medicine's side of the story to the people and to combat state medicine at the local level; these broadcasts have been enthusiastically received.

The members of the medical society have had the privilege of becoming senior members of and organizing the first staff of the very splendidly equipped and elaborately furnished Pioneer Memorial Hospital recently opened near Brawley.

The society holds its regular meetings the second Tuesday of each month at 8 p.m. at the Pioneer Memorial Hospital. The scientific program is followed by a business meeting. At the December meeting the society adopted a constitution and by-laws including the formation of an executive council which it is hoped will relieve the society as a whole of a lot of detailed administrative time-consuming work.

ERNEST BROCK, *Secretary*

Orange County Medical Association

The year 1950 has seen us safely over the problems resulting from converting our association from its traditional pattern to that of a business-like organization, functioning along clearly defined public relations lines and centralizing its activities through the services of an executive secretary.

This first full year under the new plan has proved the wisdom of those in our association most responsible for its adoption. In the first place, the onerous detail work no longer falls to the officers and to committee chairmen. They are free to concentrate on policies and courses of action, leaving the routine but vitally necessary steps which follow to the headquarters office staff.

We also are in much better position, with a central office, to keep the press aware of information pertinent to the public health and welfare and to correct, with a minimum loss of time, misinformation not in the public or professional interest.

Our 24-hour telephone service through which the services of a physician are available has handled more than 200 calls from the public and from civil authorities without once failing to supply a doctor in an emergency. Without such service, any one of those calls could have resulted unfavorably.

Our association has been called upon several times to help clarify misunderstandings between patients and doctors and, through active committees, has been effective in protecting both the doctor against unscrupulous patients and patients against inconsiderate or unethical doctors. And our bureau of medical economics has come through its reorganization stage not only in sound financial position but also with definite proof that it is an actively functioning unit in our long-range medical public relations program.

CHAD M. HARWOOD, *Secretary*

Riverside County Medical Association

The annual doctors and wives' banquet of the Riverside County Medical Association was held December 16 at the Racquet Club in Palm Springs.

The association meets the second Monday of each month at the Mission Inn in Riverside. A scientific program is presented after the business session, and light refreshments are served at the conclusion of the evening.

A monthly bulletin of pertinent news and information for the members is published each month.

RICHARD N. BOYLAN, *Secretary*

San Bernardino County Medical Society

Our membership continues to increase. We now have 239 active and seven retired members, in addition to whom we also have a number of new applicants for admission.

One of our biggest developments during the past year has been the blood bank. After considerable investigation, we have decided to establish our own blood bank with the Riverside County Medical Society. This is to be centered in San Bernardino, and will follow the plan as outlined by the California Medical Association's Blood Bank Commission.

The building has been secured, and the process of remodeling is progressing. A manager has been secured, and we confidently believe that the blood bank will be in full operation by March 1, 1951.

The plans for raising the money have been formulated, the doctors having obligated themselves for about $10,000 and the balance is to be collected by public subscriptions.

This is to be a completely non-profit community enterprise, under the control and management of members of each component medical society. It will be fully staffed with mobile units and will serve both counties, which will participate with ten men on the board of directors, five doctors and five laymen. Six of the board members will be from San Bernardino County, and four from Riverside County.

The Woman's Auxiliary is going to be extremely active in helping with the blood bank. They have adopted this as their main project, and everything points toward a complete success.

CARL M. HADLEY, *Secretary-Treasurer*

San Diego County Medical Society

Perhaps the biggest problem faced by the San Diego County Medical Society in 1950 involved the establishment of the San Diego Blood Bank, which commenced operations December 1. Sponsored by the California Medical Association and this society, the bank is now serving the community in a very commendable manner.

Our council and blood bank committee spent many hours in working out necessary details, but we believe the time was well spent.

As in the past several years, particular stress was laid upon public relations and excellent progress was made. Blue Cross-Blue Shield and the California Medical Association sponsored an intensive publicity campaign here February 15 to March 1 announcing the availability of individual coverage in San Diego County. Ads, pictures and a great deal of reading copy appeared in every newspaper and the public response was beyond our fondest hopes.

A local committee of physicians staffed the press rooms during the C.M.A. convention in May to interpret the papers for the press. Results were excellent and many appreciative letters and comments were received from the reporters and scientific writers.

A society blood bank exhibit was installed at the county fair here from June 28 to July 9, also at the Frontier Homes Health Carnival on August 26.

Sixty-five radio programs were presented during the year and a considerable amount of space was devoted to society activities by local newspapers.

Our speakers' bureau continued active throughout the year, addressing groups throughout the county on socialized medicine and many other topics.

Our society committee has played a leading role in the local disaster council and devoted a great deal of time to making preliminary plans. This phase of our community activities will demand an increasing amount of our attention in 1951.

W. H. GEISTWEIT JR., *Secretary*

SECOND DISTRICT

Los Angeles County.

Jay J. Crane, Los Angeles, *Councilor.*

Los Angeles County Medical Association

The year 1950 came to a close with the threat of war and the possibility of an atomic attack, keeping the Los Angeles County Medical Association through its hard-working, hard-hitting committee on civil defense working hundreds of hours overtime to prepare this area to the utmost should war reach us in Los Angeles.

Our advisory committee to selective service, activated late in the year, quickly met the emergency caused by the draft of physicians to the armed services. Another special committee, designed to advise with reserve officers when they are called to active duty, is meeting its responsibilities in this work.

The threat of war also brought to the Association a responsibility in helping to meet the demand for blood. A special blood bank committee of the Association was formed to meet with and advise and assist the Red Cross

blood bank program and other blood bank operations within this county. This committee has held numerous meetings, working out a program that is hoped will find this area prepared to supply its share of blood to the military and to the civilian population in time of emergency.

The total membership of the Association at the end of the year reached 4,996, an increase over 1949. This increase in membership makes it mandatory for the Association to consider new quarters, including new library facilities. The present library and administration building, built when the membership had just reached 2,000, are now totally inadequate to meet the demands of a larger membership.

During the year the Association bought property on Westlake Avenue near its present buildings and through the sale of other land finds itself in possession of sufficient funds to seriously consider plans for new buildings.

The increase in membership and the change in the ratio of members practicing within the city and members practicing in the county area outside the city has called for a revision of the by-laws of the Association. A by-laws committee has been working on this revision toward an end that will find our by-laws justly meeting the demands of truly representative government.

A factor of vital importance to the people of Los Angeles County, involving as it does a very important factor of health, led to the creation of a very active committee on smog. The chief purpose of this committee is to determine the effects of smog on the health of our people and to bend every effort toward bringing this important phase of the smog problem to the attention of the proper officials and possibly to the people of Los Angeles County.

The Los Angeles County Physicians' Aid Association, created some years ago by the Los Angeles County Medical Association, toward the end of the year purchased a mansion at 3500 West Adams Boulevard, Los Angeles, for a home for those unfortunate elderly members of the Association, some of whom already are domiciled there. The property offers spacious landscaped grounds with the opportunity of adding a large number of bungalows as the need for further domiciliary care develops.

The Woman's Auxiliary of the Association as in the past has rendered valiant service in the interest of public relations. The Association has plans for greatly augmenting this important work by the Auxiliary.

Public relations work in general has been carried on much as in the past, the Association sponsoring three radio broadcasts a week, and during the early summer presented a total of nine television shows. A fine liaison has been maintained with the Los Angeles Chamber of Commerce, our city and county health departments, and the department of welfare, and with the Metropolitan Welfare Council of Los Angeles and with various other organizations of Los Angeles County.

Postgraduate work, as last year, continued in the form of weekly breakfast meetings at which practical scientific papers are presented under the guidance of Louis J. Regan, M.D., director of medical relations.

R. O. Bullis, *Secretary*

THIRD DISTRICT

Inyo-Mono, Kern, San Luis Obispo, Santa Barbara, and Ventura Counties.

Harry E. Henderson, Santa Barbara, *Councilor.*

Inyo-Mono County Medical Society

The year 1950 has seen nothing unusual in our society.

In the field of public health there has been a marked improvement, in that the full-time health officer, with adequate budget, has Inyo County now up-to-date in this important activity.

Population of the Inyo-Mono area is increasing, this in turn resulting in our doctor population growing to 14. We have four active dentists, and need about two more.

L. S. Bambauer, *Vice-President*

Kern County Medical Society

Time and the efforts of the doctors of the Kern County Medical Society have worked hand in hand during 1950. The gains of the past three years have been held securely and strengthened by time to a point approaching hoped-for permanence.

The usual implements of public relations have been used to good advantage throughout the year: radio programs, speakers' bureau, newspaper publicity, county fair exhibits, distribution of literature, personal contact and various others.

In the county fair endeavor, cooperation with health agencies of the county in a Hall of Health display has made new friends and made the medical society services better known to not only fairgoers but agency workers as well.

To provide postgraduate education opportunity, scientific programs have been scheduled monthly for the regular society meetings, at which many excellent medical speakers have presented papers. Furthermore, a cancer symposium was made available to the doctors of the county and in addition a postgraduate assembly, covering various medical subjects, was planned and presented.

The hospital building committee of the society proceeded with a hospital survey that has long been contemplated and from which constructive plans may emerge.

The blood bank committee took the initial steps toward establishment of a community non-profit blood bank along lines recommended by the Blood Bank Commission of the California Medical Association; consummation of the plan will undoubtedly be seen before July 1, 1951.

A public response (grievance) committee has been established and will be available, if needed, to adjust the doctor-patient differences that might arise in the next year. It has been set up in accordance with recommendations of the American Medical Association and the California Medical Association for county societies.

A military advisory committee and a medical emergency committee were appointed and activated to meet new demands on medical leadership.

The Kern County Hospital situation that has been the source of much concern in past years slumbered throughout 1950 in much the same fashion as an inactive volcano. Landscaping to hide the scars and reconstruct the damage is now very definitely within the realm of feasibility.

The popularity of the medical profession in Kern County is very definitely on the upswing, and should continue uninterruptedly at increased tempo.

The medical economics council has retained and strengthened its original services with the addition of some new accounts, making the prospects of additional revenue for 1951 very probable.

A California Physicians' Service seminar was arranged for the training of the doctors' office assistants in California Physicians' Service procedures.

Individual doctor activity in the field of politics was especially strong and productive.

Robert L. Day, *Secretary*

San Luis Obispo County Medical Society

The San Luis Obispo County Medical Society held nine regular scientific meetings, two social meetings, and one postgraduate meeting during 1949. Meetings were well attended and the scientific discussions by out-of-town speakers were well received.

The San Luis Obispo County Medical Society donated $1,000 to the organization of the Tri-County Blood Bank and has furnished its full cooperation to the establishing and functioning of this excellent facility.

The county medical society has a procurement and assignment service committee which has been functioning actively and cooperating with the State Association.

Five applicants were elected to membership in the society.

John H. Woodbridge, *Secretary*

Santa Barbara County Medical Society

The Santa Barbara County Medical Society's membership total reached the figure of 148 in 1950. During the year eight new members were elected; four members transferred elsewhere; three members resigned; one member retired; two members died; seven new members will be elected during the next four months.

Our meetings are held the second Monday of each month in Bissell Auditorium in the Cottage Hospital. The speakers have been outstanding and have contributed greatly to the enjoyment of the members by the excellent presentation of their subjects. The list includes such well known men as Doctors Edward W. Boland, Frank Gerbode, E. Kost Shelton, Howard P. House, and Donald Cass.

The movement which was started at the end of 1949 to create a blood bank for the tri-counties of San Luis Obispo, Ventura and Santa Barbara is now an accomplished fact, having opened for business on July 1. Due to the enthusiasm of the workers under the leadership of Dr. Paul L. Ashton, president and director of the Tri-Counties Blood Bank, the central depot and laboratory is now firmly established and working efficiently for the benefit of the communities and the medical profession

which it is intended to serve. Members of the society take turns in being present during bleeding hours. The woman's auxiliary was responsible for raising the money with which to purchase the walk-in refrigerator, and the women do volunteer clerical, procurement, and laboratory work and may be called upon by the chairman of the steering committee at any hour.

The Cancer Commission of C.M.A. presented a splendid program through many qualified speakers who outlined the diagnosis and treatment of many forms of the disease. Dinner at the Montecito Club preceded the evening session; a large and appreciative audience was in attendance. For two days the woman's auxiliary manned a table in the city for the cancer drive.

A group of outstanding teachers from the College of Medical Evangelists presented an excellent program at the postgraduate assembly on October 12 and 13. The sessions were well attended and the consensus of opinion was that this assembly was a very successful one. Dr. Louis J. Regan was the speaker at the banquet on the opening night to which the wives of the members were invited. The woman's auxiliary helped with the registration for the assembly and handled the luncheon tickets.

The Santa Barbara County Medical Society now looks forward to a busy and interesting year under the guidance of our new president, H. V. Findlay, and president-elect, G. H. Coshow. Our officers elected at the December meeting were: vice-presidents at large, L. E. Heiges and L. H. Streaker; secretary-treasurer, L. M. Nelson; delegates, A. B. Wilcox (two years), J. G. Campbell (one year), L. M. Nelson (one year); alternates, R. W. Lambuth (two years), Max Hammel (one year), D. F. McDowell (one year); council, H. V. Findlay, L. E. Heiges, R. L. Reeves, W. J. Sheehan and H. E. Henderson.

LAWRENCE M. NELSON, *Secretary-Treasurer*

Ventura County Medical Society

The Ventura County Medical Society held ten meetings during 1950. Meetings are held on the second Tuesday of each month at the Colonial House in Oxnard. The meetings are preceded by dinner. The first meeting following the Annual Convention of the California Medical Association was devoted to the report of the delegates. The proceedings of the House of Delegates and the Administrative Members of California Physicians' Service were presented and discussed. We were honored by a visit from Dr. Donald Cass, President of the C.M.A., who discussed public relations with us.

In conjunction with San Luis Obispo and Santa Barbara county medical societies, a Tri-Counties Blood Bank has been established. It is supplying our local needs in a satisfactory manner and is also collecting blood for the American Red Cross.

The hospital bed situation is improving. The Foster Memorial Hospital of Ventura is completing a 20-bed addition which will be ready for occupancy about February 1, 1951. The money has been raised for a 75-bed addition to the St. John's Hospital in Oxnard. It is anticipated that construction will be started in the near future. Bonds have been approved for a 75-bed addition to the Ventura County Hospital. Construction of this addition should be started this fall.

This addition of these beds to the present hospital facilities will probably create a critical shortage of nurses, as there has been some difficulty keeping the present facilities staffed with properly qualified nurses.

A committee on public relations has been appointed with C. A. Smolt, of Ventura, as chairman. We hope to initiate a sound public relations program which is compatible with our rather limited membership.

The following officers were elected to serve for the year of 1951: president, J. W. Moore, Ventura; vice-president, J. R. Monohan, Oxnard, and secretary-treasurer, A. A. Morrison, Ventura.

A. A. MORRISON, *Secretary*

FOURTH DISTRICT

Calaveras, Fresno, Kings, Madera, Mariposa, Merced, San Joaquin, Stanislaus, Tulare, and Tuolumne Counties.

Neil J. Dau, Fresno, *Councilor.*

Fresno County Medical Society

Every phase of the Society's program during 1950 was directed toward the strengthening of internal relations and improved public relations. Early in the year the Society adopted a new constitution and by-laws which had been prepared during the preceding year. The first annual medical and surgical institute, co-sponsored by the C.M.A., was held in November. A C.M.A. Cancer Commission program was presented in September.

A local chapter of the American Academy of General Practice received its charter in October. The society cooperated with the C.M.A. and A.M.A. in the National Education program. Our Speakers' Bureau has been active and an increasing number of talks has been given by Society members on scientific and medical-economic subjects. In addition, more than 20 addresses on the subject of socialized medicine were presented throughout the Central Valley. The speeches indicated the constructive program which the Society had accomplished and were based on the premise that such was in the public interest and therefore had public relations values.

Our Committee on Professional Relations continues to serve as a judicial body in indicating, to the profession and the public, various standards of medical practices and procedures in the community. Throughout these hearings and dealings with the public and the profession, the committee has made a serious and conscientious effort to (1) assure the public of a fair hearing and make no attempt to whitewash the profession, and (2) assure the profession that no arbitrary rulings or undue pressure will be exerted which would adversely affect the physicians' individual rights. The Society's efforts to arbitrate complaints from the public have been publicized judiciously and have met with general favor. A sub-committee of the professional relations committee has held a meeting with officers of the Fresno-Madera Pharmaceutical Association and another meeting with the nurses, physical therapists, x-ray and laboratory technicians. Purposes of the meetings were to establish greater rapport among allied professions and to iron out various problems of ethics and procedures.

The Society's office has continued to serve the public in securing doctors in emergencies, arranging for referral of patients to doctors, disseminating data concerning health insurance, medical schools, hospitals, medical society policy, public health matters and the like.

An essay contest in all city high schools was initiated by the Woman's Auxiliary and the Society is offering defense bonds in the amounts of $100, $50, and $25. Subject of the essay was "50 Years of Medical Progress, 1900-1950." The contest closed January 12, 1951, and enjoyed a highly favorable reception from students and school officials.

The Society began the coordination of medical facilities with the civil defense authorities and is cooperating with the Society-endorsed Valley Blood Bank and the Red Cross in the national defense blood program. The Society was effectively represented in drawing up a medical staff policy for the proposed Valley Children's Hospital.

The Society's group malpractice and educational program has been functioning well, as has the health and accident insurance plan.

Press and radio coverage of the activities of the Society and its members has been good.

Monthly scientific programs have been good and attendance has maintained a favorable average. Membership in the Society has increased from 222 to 243 members of all classes.

In the field of public health, an informal survey of West Side migrant labor camps was conducted by members of the Public Health Committee. Many factors contribute to improper health conditions and one of the main problems seems to be camp sanitation and the need for constant supervision of the sanitary facilities in these camps. The Society presented a detailed report at a hearing of the state committee to survey the agricultural labor resources of the San Joaquin Valley. Facilities of the Medical Society have been offered the Fresno County Coordinating Council in its studies of medical problems that arise in this area. Physicians' forms for the physical education remedial program in the Fresno city schools were approved. The Society, along with other groups, recommended to the city commission that a compulsory training course be instituted for food handlers. The program was put into effect by the commission. The Society is represented on the County Health Center steering committee.

In the interest of public health and scientific medicine, the Society has studied and kept abreast of local, state and national legislation and has cooperated with the Public Health League of California, as well as the C.M.A. and A.M.A.

A proposal of our library committee that the library at the Fresno General Hospital be operated jointly with the Medical Society was approved and $500 has been budgeted to carry out the program during 1951.

THOMAS A. COLLINS, *Secretary-Treasurer*

Merced County Medical Society

The officers for 1951 are Dr. J. J. Wolohan, Livingston, president; Dr. Shelby Hicks, Merced, vice-president; Dr. Harry R. Maytum, Merced, secretary-treasurer; Dr. George Pimentel, Los Banos, delegate, and Dr. E. A. Jackson, Merced, alternate.

The following new members were elected or admitted by transfer to the society this year: Dr. Ernest A. Bickell, Livingston; Dr. John East, Merced; Dr. Paul Smith, Dos Palos, and Dr. William H. Curry, Dos Palos.

For the past few months the military advisory committee and civilian defense and disaster committee have been very busy.

Regular meetings are held the third Thursday of each month at the Hotel Tioga in Merced at 7:00 p.m., and visiting M.D.'s are always welcome.

HARRY R. MAYTUM, *Secretary-Treasurer*

San Joaquin County Medical Society

The activities of the San Joaquin County Medical Society have been ably directed during 1950 by President George K. Wever. Several important business matters long pending before the Society have been terminated.

For a period of more than one year study was given to the feasibility of engaging a full-time executive secretary. A great deal of information was acquired and work done by a committee headed by Dr. John T. McNally. A vote taken in February indicated that about two-thirds of the membership favored the plan, while one-third opposed it. A 75 per cent vote in favor of the plan was necessary for its passage. Dr. McNally's committee was instructed to continue its program of study and education and a recommendation was made that another vote be taken when the time seemed propitious.

In April the society approved a plan for group health and accident insurance proposed by Dr. Verne R. Ross of the medical problems committee. The master contract was issued to the society by the National Casualty Company of Detroit with a coverage at a moderate cost to all members 60 years of age or under, who are actively engaged in practice. The first six months of operations have proved the value of the contract. Various plans for group professional liability insurance are now being studied by a committee of which Dr. Emil Gough is chairman.

The local Red Cross blood bank under the direction of Dr. D. C. Harrington has been very busy. Recently about a thousand pints more blood per month have been drawn than in the corresponding month a year ago. A major portion of this blood is being flown to Korea but some is also being processed into plasma and blood fractions to be stored for civilian defense.

The annual series of lectures of the postgraduate study club maintained their usual high standard. Members of the society continued to cooperate with the American Cancer Society in lay education in the various communities. A committee of which Dr. Virgil Gianelli is chairman has outlined a plan for the revision of our constitution and by-laws.

F. A. MCGUIRE, *Secretary*

Tulare County Medical Society

The 77 members of the Tulare County Medical Society enjoyed an exceedingly successful year under the leadership of our president, Dr. Wiley C. Zink.

The society meets monthly at various towns throughout the county. We have been very fortunate during the past year to have excellent scientific programs, most of our speakers being from Los Angeles and San Francisco. In addition to our regular scientific programs, we had a very successful ladies' night dinner dance.

The society has furnished two members to the Armed Forces, Dr. William D. Clinite and Dr. Charles M. McClure.

During the past year a new constitution and by-laws have been drawn up by the officers of the society, and at the present time, have been presented to the society for study to be adopted early in 1951.

Officers elected for 1951 included Dr. James E. Feldmayer as president, Dr. J. H. Brady as secretary, and Dr. Robert D. Karstaedt as vice-president. Drs. Feldmayer and Brady were also elected delegates to the California Medical Association.

JAMES E. FELDMAYER, *Secretary*

FIFTH DISTRICT

Monterey, San Benito, San Mateo, Santa Clara, and Santa Cruz Counties.

Hartzell H. Ray, San Mateo, *Councilor.*

Monterey County Medical Society

The society at present numbers 110 active members, and has completed a very satisfactory year under the presidency of Dr. Richard Hane.

A new constitution, designed to reduce the business drudgery for the membership at large, was drawn up and adopted this year.

Dr. Theodore Englehorn is the president for next year to be assisted by Doctor Howard C. Miles as secretary.

LEGRAND G. WOOLLEY, *Secretary*

San Mateo County Medical Society

The year 1950 brought the San Mateo County Medical Society to its greatest growth yet recorded. There were 54 new doctors admitted during the year and the membership stands at 243 (all categories) with 21 on application. This growth has brought the County's physician-patient ratio to one doctor to about 950 persons. During the year the Sequoia Hospital at Redwood City was completed and accepted its first patient in October; work will begin on Peninsula Hospital in March 1951.

A series of interesting and educational scientific programs and some social evening meetings were capped with the annual meeting at which Dr. Harry F. Smith of San Bruno was elected to succeed Dr. Ralph D. Howe as president, Dr. D. W. Boudett moved up from secretary-treasurer to president-elect and Dr. Alf. T. Haerem was elected secretary-treasurer.

During the year a new constitution was ratified and its provides for some new district directors to serve on the board. Elected from District 1 was Dr. George W. Laird; from District 2, Dr. Donald W. Linck, and from District 3, Dr. Frederic P. Shidler.

Growth also made mandatory the election of a new delegate and alternate delegate to C.M.A., so Dr. James S. Edwards and Dr. Bradley C. Brownson were accordingly elected for 1951-52.

The Society's executive office has been operating at constantly increasing tempo and is taking ever larger quarters at its present location. Noteworthy among the many facets of the Society's program has been the guarantee by the membership to provide medical care to everyone irrespective of the patient's ability to pay.

D. W. BOUDETT, *Secretary-Treasurer*

Santa Clara County Medical Society

During the year 1950 the membership concentrated its activities on improving and expanding the programs of membership benefits and public services initiated in 1948 and 1949. Organizational work moved forward with greater smoothness and flexibility due to the improvements brought about through the new by-laws which were adopted in late 1949 and put into operation with the inauguration of the 1950 officers. Practically all society programs function under the responsibility of six major standing committees whose work is generally supervised and "spurred-on" by the executive committee. Except for the summer months, the executive committee maintained an annual record of one meeting per week.

The influx of new physicians opening practice in Santa Clara County did not subside from the record of the previous two years. At the end of the year the membership stood at 343, 36 of whom were elected during the year. In addition there were 33 applications pending for election to membership.

In June the American Newspaper Publishers' Association of New York City announced that the county society's newspaper advertising campaign for the year 1950 had been awarded the distinction of being among the fifty best newspaper campaigns in the nation for the entire year. All classes of advertising, including industrial, automotive, general manufacturing, household products, and retail trade were included in the grouping from which judging of the medical society's advertisements were made.

The society continued to expand and publicize with further newspaper advertising the guaranty of its members to provide the services of a physician in all cases where care was needed, irrespective of the patient's ability, or inability, to pay. Services of the society's fee com-

plaint and service complaint committees were also further publicized.

A code governing relationship between the society and its individual members with lay health organizations was recommended by the public health committee and adopted by the council. The code is an adaptation of that recommended by the California Medical Association for statewide use.

The society operated a blood typing service at the county fair held in September. The booth was an unusual center of attraction, and more than one thousand persons were typed without charge.

The society was unfortunately partially deprived of the services of its president, Dr. Fred Borden, who has been confined to his home since June by illness. The balance of his term was completed by our first vice-president, George W. Waters, whose capable leadership and unbounded energy were acknowledged with praise and appreciation by the membership at the annual December gathering. The year closed with a dinner-dance meeting, held at Hawaiian Gardens in San Jose, which was attended by the largest gathering of members and their wives ever held by the society.

WILLIAM L. MOLINEUX, *Secretary*

Santa Cruz County Medical Society

Dr. D. D. Smith of Watsonville served as our president during 1950 and a very successful year was recorded. As in the past the system of bimonthly meetings was continued. At the January meeting our speaker was Dr. Earl King of the University of California Medical School who presented a paper on "Obstetrical Complications." In March the subject of "Amputations of the Lower Extremity" was presented by Dr. Terwilliger of Stanford Medical School. Dr. Carroll McKinney of Carmel was with us in May and discussed the two subjects "Rheumatic Fever" and "Coronary Artery Disease." The health department took over in July and our speaker, Dr. Sox of the State Department of Public Health, addressed us on "The Relationship Which Exists Between a County Health Department and the Local Medical Society." In September officers of the California Medical Association were with us. We heard from President-elect MacLean, Councilor Ray, Executive Secretary Hunton and Ben Read. Medical-economic and medical-political topics were discussed. The annual business meeting was held in November. Dr. William Kuzell of Stanford Medical School presented a paper on "Treatment and Differential Diagnosis of Arthritis." The paper was illustrated with a movie of an ACTH-treated case.

SAMUEL B. RANDALL, *Secretary*

SIXTH DISTRICT

San Francisco County.

M. Laurence Montgomery, San Francisco, *Councilor.*

San Francisco Medical Society

The big event during the year for the San Francisco Medical Society was playing official host to the A.M.A. convention in June. The meeting was most successful in point of attendance, scientific activities, the Delegates' and Chinese dinners, our souvenir pictorial brochure and the weather.

Membership participation and interest in the affairs of the society increased in 1950. A greater number of members served in our various committees. The section and general meetings on the whole had reasonably good attendance. Most successful were the three dinner meetings at which Frank Lahey of Boston, Paul O'Leary of Rochester and Walter Alvarez of Mayo Clinic were the guest speakers. There seems to be a definite feeling that the scientific meeting should be returned to the society instead of being divided into innumerable small hospital sessions. In fact, a movement was started to modify compulsory hospital meetings which have tended to transgress the boundaries intended and thus competed with society activities.

As the Korean situation worsened and the demands of the armed forces for personnel increased, an armed forces advisory committee was created to hear pleas for deferment by recalled reserve medical officers and, by prearrangement with the Army, to recommend for or against their return to active duty. With the passage of the doctor draft law this committee was made representative of the government to provide similar service to the Selective Service System.

In accordance with the agreement on a national level that all blood programs should be completely integrated in peace and war, the society's Irwin Memorial Blood Bank and the local chapter of the American National Red Cross teamed together in a concerted drive for blood for the armed forces in Korea. Whole blood from our blood bank was flown to Korea on the second shipment to leave this country, making the society's blood bank the first independent one in the nation to send blood overseas. This drive for blood and the excellent teamwork between our society and the Red Cross in striving to attain our mutual goal will continue.

The society is playing a leading role in San Francisco's disaster relief program. Our immediate past president, William L. Bender, was appointed chairman of the "Mayor's Advisory Committee on Medical Matters Relating to Disaster." In collaboration with the society's civilian defense medical organization committee, Dr. Bender and his committee undertook the difficult but necessary task of seeing that every available physician, medical student, dentist, nurse and laboratory technician will be professionally competent in the event of atomic disaster by holding meetings designed to acquaint all professions concerned in the medical aspects of relief with the fundamentals. In addition, at this writing all physician members of this society who filled in and returned civilian defense questionnaires have been assigned by the mayor and his committee to a post to which to report in time of emergency.

A new constitution and by-laws more closely geared to the times was adopted at the 82nd annual election held December 12, 1950. Among the changes wrought by the new governing instrument is the deletion of the word "county" in the society's name; a president-elect has been introduced, the voting members of the board of directors enlarged from 21 to 26 members by virtue of giving officers of the society the right to vote with the board, and the office of secretary-treasurer and editor of the society's publications has been divided into two classifications, namely, secretary-treasurer, and assistant secretary-treasurer and editor.

The revised instrument also stipulates that no member may belong to more than one standing or special committee; the membership and admissions committees have been combined into one admissions committee; the professional conduct committee is changed to professional relations committee and its duties are spelled out in great detail; the size of the cancer committee is specified, which the old by-laws did not do. The president is removed from the nominating committee; the annual election date is advanced to one day before the annual meeting to give more time to count the ballots. The executive committee is enlarged to seven members. The constitution is shorter, and many things that were in the old one are now found in the new by-laws instead.

The society admitted 145 physicians to membership in 1950, making a total membership of 1,609 as of December 1. Fourteen members died during the same period.

In the field of community service, the T.B. minifilm unit in operation at society headquarters, operating as a survey unit only, continued to serve member physicians and their patients, and in the past year did 14,482 minifilm chest x-rays. Of the 612 cases reported to the San Francisco Department of Health, 365 were cleared clinically of tuberculosis suspicion, 164 were considered healed or inactive tuberculosis, 47 were diagnosed clinically as pulmonary tuberculosis previously unsuspected, 21 with demonstrated bacilli. Thirty were recommended for hospital entry and 21 actually put in a hospital.

The publicity committee had two meetings during the year and with the cooperation of the San Francisco Hospital Conference also had a dinner meeting with representatives of all the San Francisco newspapers, news services and radio chains early in the year. This was a splendid evening where problems of mutual interest concerning the dissemination of medical news were thoroughly discussed. The speakers' bureau has continued to supply speakers not only on the subject of socialized medicine but on other aspects of medicine also. Our referral service has increased its effectiveness as the result of experience.

During the year the professional conduct committee considered approximately 67 formal complaints, i.e., those submitted in writing to the society, which is the only type considered by this committee. Of these complaints, all investigated and adjudicated by the committee, 48 were primarily concerned with fees. The committee found the chief trouble to be the usual one; neglect on the part of the physicians involved to advise the patients in advance of treatment, either medical or surgical, what the costs were to be, or the basis on which they were computed.

The *Bulletin* of the San Francisco Medical Society underwent some changes this year, all of which have

tended to streamline and make it a far more attractive and readable publication. Color was introduced for the first time and its cover was redesigned to allow for a change of photograph each month, usually of local color.

Numerous other committees were at work during the year and their accomplishments were many and varied. Much of the fine work accomplished this year was due primarily to the personnel of the committees and their indefatigable attention to their duties.

The Bureau of Medical Economics had a splendid year insofar as its membership is concerned. The San Francisco District Dental Society has worked with our society to build up the membership of the bureau, and it is hoped that 1951 will see a 100 per cent representation from both societies. The Bureau of Medical Economics has been now incorporated on its own as of San Francisco rather than as part of the former overall corporation which included Alameda and Santa Clara. This will tend for easier and more efficient operation.

As we go forth into 1951 this society is well aware that it faces even bigger problems due to a probable shortage of physicians as the armed forces fill their quotas, and because of important economic and other aspects on the home front. It is prepared to tackle and solve them to the best of the ability of its directors, officers and its membership.

ALLEN T. HINMAN, *Secretary-Treasurer*

SEVENTH DISTRICT

Alameda and Contra Costa Counties.
Donald D. Lum, Alameda, *Councilor.*

Alameda-Contra Costa Medical Association

The Alameda and Contra Costa medical societies amalgamated as of November 1, 1950, to form the Alameda-Contra Costa Medical Association. While the merger is legally and formally complete, much time and work will be behind us before we will have adapted all of the public services of the association to the differing conditions, needs and attitudes of the many communities we now serve.

Like most other societies, A.C.C.M.A.'s attention recently has been detracted from these long-range projects and focused upon the immediate urgent need for blood for the armed forces, civilian defense organization, procurement of medical officers for the military, and the other medical problems of war.

During the past year we have reaped some of the beginning rewards of a continuing, soundly based public relations program. We have achieved greater public understanding and appreciation as a result of our efforts to recognize our responsibilities, and within the limits of our best abilities to meet them—responsibilities to our patients and the public, to our members and to medicine. But there is much more to do than has been done.

PAUL MICHAEL, *Secretary-Treasurer*

EIGHTH DISTRICT

Alpine, Amador, Butte, Colusa, Eldorado, Glenn, Lassen, Modoc, Nevada, Placer, Plumas, Sacramento, Shasta, Sierra, Sutter, Tehama, Yolo, and Yuba Counties.
Wayne E. Pollock, Sacramento, *Councilor.*

Butte-Glenn Medical Society

The Butte-Glenn Medical Society has been quite active during the past year under the guidance of Dr. Cleon Hubbard, president. Meetings have been held monthly, either business or academic. The business meetings have been quite enlightening and sometimes very warm as the local medical society has entered local politics and has taken a more active interest in the county hospital and indigent care program. There is now an active county hospital staff to assist in the guidance and care of the indigent and old age program in Butte County. There has been a committee appointed to study the possibility and advisability of working out some old age and indigent program on a C.P.S. insurance basis.

A functioning blood bank has now been established in this area with depots at the Enloe Hospital, Butte County Hospital in Oroville and the Gridley Hospital. The local blood bank is a branch unit of the Sacramento Blood Bank. Dr. Meredith Guernsey is primarily responsible for its formation. A tumor board has been discussed at length and will probably be established in due time.

J. O. CHIAPELLA, *Secretary*

Lassen-Plumas-Modoc County Medical Society

This society meets on "call" of the president. We have had several interesting meetings in 1950 in various sections of the three counties. Because of the great distances members have to travel and the fact that someone has to "cover" in each community, we never have a full attendance but usually good.

An interesting week-end meeting was held at Feather River Inn in August. Dr. Ray Kistler of San Francisco talked on surgical emergencies of the abdomen. Dr. Wayne Pollock, our Councilor, gave us a report on C.M.A. activities and their problems. At this meeting Dr. James Creever was elected president and Dr. J. D. Coulter secretary-treasurer. We enjoyed the recreational activities of Feather River Inn and hope to make this an annual week-end meeting.

Dr. MacLean, President-elect of C.M.A., visited us at a dinner meeting in Susanville on October 7, along with the Executive Secretary, Mr. John Hunton.

The Tri-County arranged meetings in the separate counties to review with various chest specialists the positive x-rays taken as a follow-up to the state tuberculosis case-finding program. These informal discussions were very instructive and enjoyable to us.

The board of directors was appointed to act as procurement and assignment for physicians in Lassen-Plumas-Modoc counties.

We deeply appreciate the efforts the speakers who have visited us have made in traveling so far to attend our meetings.

J. D. COULTER, *Secretary*

Sacramento Society for Medical Improvement

Organized in 1868, the Sacramento Society for Medical Improvement has enjoyed steady growth. The society now has 260 members, many of whom are active in local and state medical affairs. Meetings are held monthly, at which time speakers, usually from the medical schools in San Francisco, aid in keeping us informed of recent developments. An annual banquet is held March 17, and the December meeting is devoted to election of officers.

A history of the society, which includes a great many factors of interest to California medicine in general, has been written by a society member, J. Roy Jones, M.D. The history is in the form of a book entitled "Memories, Men, and Medicine" which has been published by the Sacramento society.

As another milestone in progress, the society, in 1950, inaugurated a broad and extensive public relations program, and at the end of the year publicly announced it was willing and prepared to offer to every resident of the county good medical care 24 hours a day, regardless of ability to pay.

EDMUND E. SIMPSON, *Secretary*

Shasta County Medical Society

The Shasta County Medical Society has 26 members.

Officers for the new year are: O. J. Hansen, president; L. W. Bonar, vice-president, and H. R. Eagle, secretary-treasurer.

Regular meetings of the society are held on the first Monday of each month.

H. R. EAGLE, *Secretary-Treasurer*

Yolo County Medical Society

The Yolo County Medical Society held regular monthly meetings during the year with presentations by outstanding medical men on a variety of subjects related to the practice of medicine. One meeting was devoted to a discussion of physician-patient relationships by a team of officers from the California Medical Association.

A special meeting was called by the president in August to discuss the national emergency and to elect a Procurement and Assignment Committee. Two other committees were formed this year, a Tuberculosis Committee and a Fee Schedule Committee.

New members admitted during the year were W. Pearson, John H. Saltzman, Joseph W. Cook and Harold Johnson.

CHARLES L. MCKINNEY, *Secretary*

NINTH DISTRICT

Del Norte, Humboldt, Lake, Marin, Mendocino, Napa, Siskiyou, Solano, Sonoma, and Trinity Counties.

John W. Green, Vallejo, *Councilor.*

Marin County Medical Society

Marin County Medical Society has had a very worthwhile year with the normal amount of changes. The membership has now reached 78 members with several additional prospective members to be accepted in the early months of 1950. Nine monthly meetings have been held with very interesting scientific programs being given with outside speakers.

The obstetrical departments of all hospitals have been busy for the most part. The board of directors of the new hospital have made very satisfactory progress in 1950. The lower stories have already been built and the building is now ahead of schedule. When completed the county will have a 100-bed hospital of the latest construction.

CARL W. CLARK, *Secretary*

Mendocino-Lake County Medical Society

The January meeting of the Mendocino-Lake County Medical Society was held at Willits, California, on the 17th of January, 1951.

The officers for 1951 were elected as follows: Dr. Robert B. Smalley, president; Dr. Royal Scudder, secretary-treasurer; Dr. J. E. Gardner of Ukiah, delegate; Dr. Thomas Hill of Lakeport, alternate.

A committee was appointed to draw up plans for a blood bank.

A request was made to the State Health Department, the C.M.A., the California Tuberculosis and Health Association to make a study of health facilities in Mendocino County.

ROBERT B. SMALLEY, *Secretary-Treasurer*

Napa County Medical Society

The Napa County Medical Society had a successful year during 1950. Our membership decreased slightly but we have hopes the year 1951 will show us sufficient increase to allow another delegate to the California Medical Association.

Dr. John G. McGrath, a member of the staff of Napa State Hospital at Imola, gave diligent service as president and throughout the year our meetings were interesting, instructive, and profitable.

The November meeting, as usual, was held at the Veterans Home where our society has a permanent invitation to accept their hospitality during this month. This is the meeting when the officers for the ensuing year are elected and is made the chief item of business after enjoying a delicious dinner. The officers elected were:

President, Charles W. Brown; vice-president, Herbert B. Messinger; secretary, Robert Starr Northrop; delegate, George I. Dawson, and alternate, Walter H. Brignoli.

We anticipate that the coming year will show some growth in membership unless our ranks are depleted by the exigency of war.

ROBERT S. NORTHROP, *Secretary*

Siskiyou County Medical Society

The opening of a 17-bed hospital at Mount Shasta has been of great help in the southern part of Siskiyou County. Occasional meetings through the year have marked the activity of the county medical society. The efforts of Dr. H. Gordon MacLean and Mr. John Hunton in visiting this distant mountain area were much appreciated and enjoyed by the members.

WERNER F. HOYT, *Secretary*

Solano County Medical Society

The past year's activities of the Solano County Medical Society, under the guidance of Dr. Bernard V. O'Donnell as president, showed evidence of the progressive forward development which has been apparent in neighboring county medical societies.

Among the important activities accomplished during the year 1950 was the establishment of the group malpractice insurance plan, similar to that of Alameda County, to which all doctors of the Solano County Medical Society may belong. Along with this also was established a health insurance plan covering over 75 per cent of the doctors of the society.

Other important developments which have occurred were the establishment of a school health committee to work with the local school physicians in correlating health problems and the establishment of a mental health committee. Along with this, a rheumatic fever clinic in Solano County was established where patients may be referred by their private physicians if they are unable to pay for private medical care.

During the middle of the year the civilian defense program was set up under the leadership of Dr. L. S. McLean with all doctors designated into special groups or categories. Shortly following this, a military affairs committee was established for the purpose of making recommendations and working with the various draft boards of Solano County.

The Solano County Medical Society has also been interested in the formation of the Bay Area Medical Society for the purpose of correlating activities of these societies for the benefit of the individual society.

The medical society also sponsored a team in the Peanut League and is indebted to Dr. Ambrose Ryan for his untiring efforts in seeing this activity succeed.

The society was benefited at its meetings by many prominent speakers, among them Dr. Francis Chamberlain, cardiologist, who spoke on treatment of cardiac emergencies; Dr. Robert Arbuckle, radiologist, who spoke on the roentgenological diagnosis of bowel obstructions; Dr. Thomas Buckby, urologist, spoke on disease of the liver; Dr. Randall Madely spoke on ophthalmology in general practice; Dr. H. Gordon MacLean, President-elect, and Mr. John Hunton, executive secretary, spoke on problems relating to the Medical Association.

New members of the society elected during the last year were Albert Diamondstone, T. P. Sheridan, H. L. Joseph, H. William Milo, James A. Wilson, William R. Hoops, and Ernest W. Jordan.

Among the social activities enjoyed by the medical society was the party given by the woman's auxiliary at the Napa Country Club, the benefits going to the establishment of a nurses' scholarship fund. The Solano County Medical Society were the hosts of the annual four-county medical society meeting, consisting of Marin, Sonoma, Napa and Solano counties. An enjoyable evening was spent and Dr. MacLean, the President-elect of the California Medical Association, spoke. During this time he presented Dr. C. H. Bulson of Napa the 50-year pin for the continuous practice of medicine in California.

The following officers were elected in the November meeting for the year 1951: J. J. Garthe, president; R. M. Gibbons, vice-president; I. M. Shankman, secretary-treasurer; L. W. Johnson, delegate, and Felix Rossi, alternate delegate.

The last meeting of the Medical Society, held on December 19, was a purely social meeting held with the Solano County Bar Association. Guests were invited from the Mare Island Naval Hospital and the Travis Air Force Hospital. Speaker of the evening was Mr. Thomas Hadfield, an official of the American Mutual Life Insurance Company of San Francisco, who spoke on malpractice insurance.

CARL V. REICHMAN, *Retiring Secretary*

Sonoma County Medical Society

The year 1950 found the Sonoma County Medical Society, now numbering 99 members, emphasizing the importance of public relations. Initiated by Dr. Alexis Maximov, our 1949 president, this program was further and significantly developed by Dr. John Mohrman, last year's president.

Specifically, the outstanding success of the Alameda County plan prompted a careful study of their program. This culminated in September with an inspiring exposition of the philosophy and application of good public relations by Mr. Rollen Waterson. At the same meeting authority for the achievement of applicable features of this plan was voted by the society. Significant steps already taken included the obtaining of the part-time services of Mr. F. Leslie Manker, a local practicing attorney, as executive secretary, and the publishing of a printed bulletin under the editorship of Dr. William Makaroff. Another high spot was the visit of President-elect H. Gordon MacLean

and Executive Secretary John Hunton of the C.M.A., who outlined the cumulative importance of individual doctor-patient relations.

The society also took the initiative in arranging the second annual joint meeting of the local medical, dental, legal and pharmaceutical professions, at which time these subjects were discussed by Dr. Berthel Henning of San Francisco and Mr. William Winter, noted news analyst.

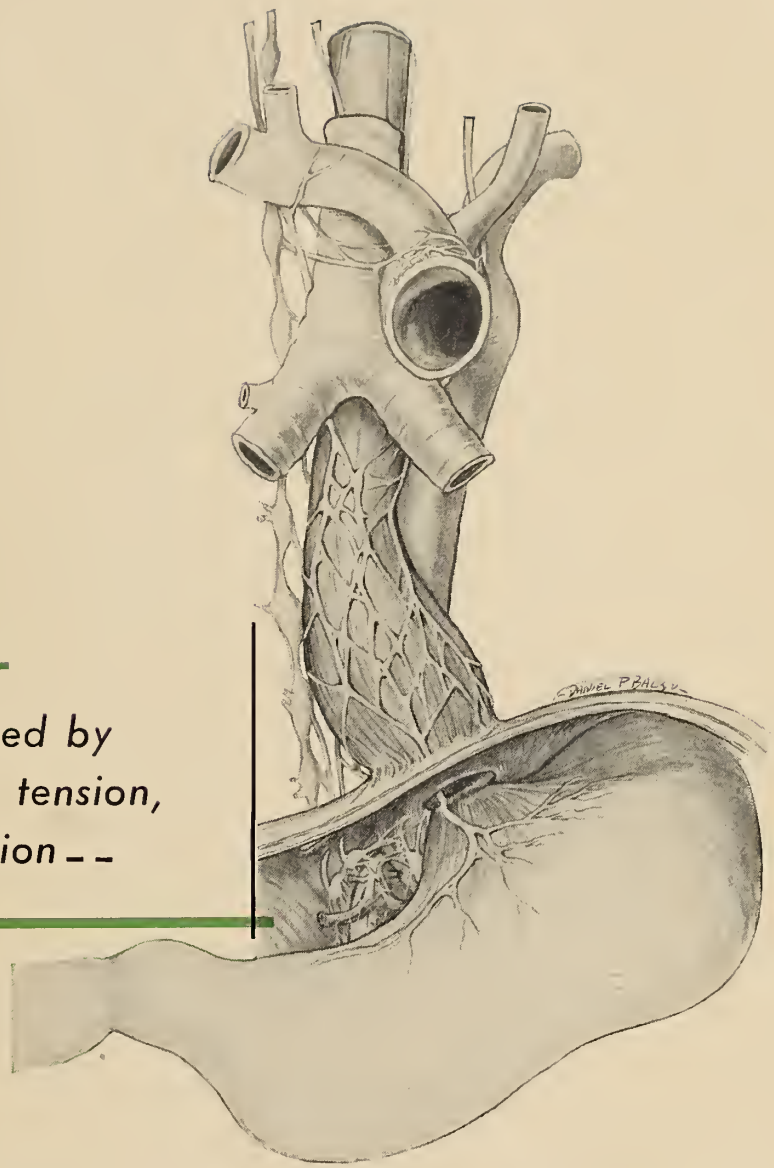
During the past year the Sonoma County Community Blood Bank, which has been sponsored and guided but not exclusively controlled by the medical society, expanded its activities to the processing of blood for Mendocino and Lake counties and to embarking upon a program of procuring 400 units of blood monthly for the armed forces. Dr. William Shipley, a retired society member, has been serving as medical director.

In a tribute to "old timers," Dr. Shipley and a number of other retired physicians were honored at a special meeting. It would be incomplete not to note the excellent guest speakers, Doctors Verne Inman, Ephraim Engleman, Gilbert Gordon and Roberto Escamilla, who along with several symposia employing local talent, contributed to the edification of the membership. Joint meetings with the auxiliary including a barbecue at the residence of Dr. William Makaroff completed a particularly successful year.

WILLIAM J. RUDEE, *Secretary-Treasurer*

SPASTIC STATES - -

accompanied by irritability, tension, apprehension - -



respond to the antispasmodic action of Pavatrine, combined with the mild central nervous system sedation of Phenobarbital—as exhibited in Pavatrine with Phenobarbital.

Pavatrine is unique in that it exerts two types of spasmolysis—neurotropic and musculotropic—for relief of gastric hypermotility, cardiospasm, pylorospasm, spasticity of the duodenum including the sphincter of Oddi, bladder spasm and dysmenorrhea.

For the medical management of gallbladder disease, Pavatrine with Phenobarbital is useful in conjunction with the hydrocholeretic, Ketochol.

PAVATRINE® with PHENOBARBITAL

(β-diethylaminoethyl fluorene-9-carboxylate hydrochloride)
Each tablet contains 125 mg. (2 grains) of Pavatrine and 15 mg. (¼ grain) of phenobarbital.

RESEARCH IN THE SERVICE OF MEDICINE **SEARLE**

Complete Control of Epilepsy

Rather than simply reducing the number of seizures, the aim of antiepileptic therapy should be to maintain the patient seizure free and to help him live as normal a life as possible. This can be achieved by an integrated method of treatment.

I. OBJECTIVE — MAINTENANCE OF AN INTEGRATED PERSONALITY THROUGH:
   a. emphasis of patient's abilities not his disabilities
   b. participation in normal activities (not to the point of fatigue however)
   c. avoidance of patronization or overprotection
   d. removal of guilt feeling in patient due to ignorance or shame of disease

II. MAXIMUM SEIZURE CONTROL WITH A MINIMUM LOSS OF EFFICIENCY THROUGH:
   a. complete and correct diagnosis
   b. careful adjustment of medication to suit the patient's needs (depends on nature, frequency, severity of seizures)

III. SELECTION OF MEDICATION TO SUIT THE SEIZURES:

The drugs most commonly used at the present time are the barbiturates, the oxazolidinediones, and the hydantoins. Mesantoin is a newer hydantoin and is most effective in controlling grand mal, psychomotor and Jacksonian seizures.

DOSAGE REGULATION must be adjusted so as to obtain the smallest dose (usually 4-6 tablets) which will render the patient seizure free. Start therapy with ½ or 1 tablet daily. After a week on this dose a ½ or 1 tablet increment is added for one week. This is continued until the optimum maintenance dose is reached. If other medication is being taken unsuccessfully, Mesantoin can be added to the regimen in the same fashion, while the old drug is being reduced gradually.

SIDE EFFECTS—Mesantoin has been reported to produce side effects which can be manifested as a) rash b) drowsiness and c) blood dyscrasia. The skin and blood changes are primarily manifestations of individual sensitivity and indicate that the drug should either be reduced or discontinued.

PRECAUTIONS — as with most potent medication, certain precautions are necessary.

a. close check on the patient — repeated visits and blood counts — prescriptions should be non-renewable
b. no Mesantoin if original white blood count is below 4000
c. caution if rash or blood changes occur and if patient has history of previous skin rash or drug sensitivity
d. discontinue drug if bleeding of gums or vagina occurs — if patient develops sore throat or upper respiratory infections

Full data on request; write to:

Sandoz Pharmaceuticals

DIVISION OF SANDOZ CHEMICAL WORKS, INC.
68 CHARLTON STREET, NEW YORK 14, N. Y.

BELIEVE ACTH LESSENS HEART DAMAGE DURING RHEUMATIC FEVER

The belief that the early use of ACTH in the treatment of acute carditis due to rheumatic fever will lessen the degree of damage to the heart was voiced recently by two New York pediatricians.

The effects of ACTH on eleven patients, 6 to 18 years of age, were studied by Doctors May G. Wilson and Helen N. Helper. at New York Hospital, Cornell University Medical Center. Six of their patients were presumably in their initial attack of rheumatic fever and in five it was recurrent. Their findings were reported in a recent issue of the *Journal of the American Medical Association.*

"In every patient evidence was obtained which indicated that symptoms and signs of progressive acute carditis were terminated during ACTH therapy by the third to seventh day," they reported, adding that in rheumatic fever the degree of damage usually parallels the severity and duration of acute carditis.

"From this limited experience it would appear that the early treatment of acute carditis with adequate amounts of pituitary adrenocorticotropic hormone (ACTH) should shorten the course. result in minimal residual cardiac damage and prevent death due to progressive carditis and resultant congestive failure," they said.

The signs which the pediatricians interpreted as pointing to the reversibility of the acute rheumatic process during treatment with ACTH were: diminished enlargement of heart chambers, disappearance of murmurs denoting weakness of heart valves, electrocardiographic tracings showing disappearance of disturbance to the muscular walls of the heart and the increase in heart reserve.

The patients were reported to be ambulatory two to four weeks after treatment was begun and the symptoms and signs of active carditis in eight patients did not recur when treatment was discontinued.

"Some degree of cardiac damage was possibly sustained in all patients who received ACTH." the doctors said, but the patients were observed from four to 12 months after treatment and there was "no further evidence of increased cardiac damage" in five patients. In the six patients who were treated during what was presumed their first attack. there was no evidence of cardiac damage in two and equivocal evidence in three. No mention was made of the sixth patient.

No significant side effects attributable to ACTH were noted during its administration to patients for four to seven days or during a second course of treatment.

The report concluded:

"The duration of any one attack of rheumatic fever is self-limited. The nature of the fundamental chemical changes responsible for the termination of the acute rheumatic process in the natural course of the disease as well as after stimulation of the adrenal by ACTH remains obscure."

NEW high dosage liquid concentrate for greater convenience and flexibility in therapy

CRYSTALLINE

Terramycin

HYDROCHLORIDE

ORAL DROPS

the only broad-spectrum antibiotic available in drop-dose potency

provides: 200 mg. of Crystalline Terramycin Hydrochloride per cc.; approximately 50 mg. in each 9 drops.

plus appeal of attractive cherry color and pleasing cherry-mint flavor.

readily miscible with most foods, milk and fruit juices

affords ease and simplicity of administration and permits a further simplification of dosage schedules in mild and severe infections, and with patients of all age and weight levels.

Available at prescription pharmacies in 10 cc. bottles with specially calibrated dropper.

Antibiotic Division **Pfizer** CHAS. PFIZER & CO., INC., *Brooklyn 6, N.Y.*

1941 • A DECADE OF PROGRESS IN ANTIBIOTIC THERAPY • 1951

AMERICAN MEDICAL EDUCATION FOUNDATION

With the receipt of more and more $100 contributions, the medical profession's efforts to raise a substantial fund for the unrestricted use of the nation's hard-pressed medical schools will be successful.

The California Medical Association has just contributed $100,000 to the A.M.A. Education Foundation, very likely setting a precedent to be followed by other state medical societies. California's is the first state organization to make such a generous contribution to the A.M.A. campaign for funds.

In announcing California's action, President Donald Cass said that "this is the answer of the medical profession to the dwindling resources of our medical schools. The profession aims to see that no deterioration in the quality of medical education comes about, either through lack of funds or through domination of the medical educational system by the government.

"There is pending in the Senate today," he said in a news release to the press, "a bill which would provide grants to needy medical schools out of tax money. Under Supreme Court rulings to the effect that what the Government subsidizes it must control, it is obvious that the federal subsidy would be used to control the medical schools, their system of teaching and their graduates. Medicine wants no part of such control or domination."

Dr. Cass explained that his association's donation had been approved by its county medical societies in all parts of the state. The funds, he added, will come out of reserves accumulated from the annual dues of about 11,000 members.

The association is also participating in a drive to set up collection committees in all counties to encourage individual doctors to make annual contributions to the national, non-profit foundation as a continuing program. Contributions from individual physicians, which began to be received the day after the foundation was announced at the Cleveland A.M.A. session, are increasing daily. The aim of the foundation is to raise within the next few months a fund sufficiently large so that grants can be disbursed to medical schools this year with as little delay as possible. Contribution blanks are printed in the A.M.A. *Journal* each week.

Reminder for arthritis cases!

The SAFE gold preparation AUROL-SULFIDE, 2% parenteral gold sulfide, is now available for physicians in any quantity desired, in 15, 30, and 60 cc. vials. Literature available. Please order direct or through your pharmacist.

6007 N. LINCOLN AVE.
HILLE LABORATORIES, Chicago 45

WHEN YOU THINK "**COLLECTIONS**"
Think—"**THE DOCTORS BUSINESS BUREAU**"

THE OLDEST...THE LARGEST...THE BEST

AND
YOU CANNOT DO BETTER THAN THE BEST

OUR MOTTO:
"Persuasion Prevails Where Force Fails"

THE DOCTORS BUSINESS BUREAU

Call or Write Your Nearest Office:

Spreckels Bldg., Los Angeles 14
TRinity 1252
153 Kearny Street, San Francisco 8
GArfield 1-0460

Latham Square Bldg., Oakland 12
GLencourt 1-8731
Heartwell Bldg., Long Beach
Phone 632-29

Advertisers in your OFFICIAL JOURNAL *will appreciate requests for literature*

REPORT NEOMYCIN EFFECTIVE IN TREATING BLOOD, URINARY INFECTIONS

Said to be highly effective in destroying a variety of disease organisms, neomycin—one of the newer antibiotics—has proved beneficial in many cases of blood and urinary tract infections where other antibiotics in current use have failed. This is reported by a group of Philadelphia medical researchers.

Doctors Garfield G. Duncan, John R. Wolgamot and Barkley Beidleman, and Carl F. Clancy, Ph.D., make public their findings in a recent issue of the *Journal of the American Medical Association.*

All are associated with Pennsylvania Hospital, Philadelphia. Dr. Duncan is director of the medical divisions of the hospital and Benjamin Franklin Clinic; Dr. Wolgamot is Rutgers University research associate at the hospital; Dr. Beidleman is assistant physician to outpatients, and Dr. Clancy is the hospital's bacteriologist.

Ten patients suffering with bacterial infections of the blood or urinary organs were treated with the drug. Preliminary laboratory tests showed that the disease organisms were not affected by other methods of treatment, including antibiotics such as penicillin, streptomycin, aureomycin and chloramphenicol, but were sensitive to, or affected by, neomycin.

Results of neomycin treatment were "dramatically effective," the doctors report, in destroying organisms shown by test to be sensitive to it.

The doctors considered it "significant" that in no case in which the disease bacteria were eliminated did they return after treatment was stopped.

Reports of toxic effects were confined to one patient and it was necessary to discontinue treatment. She complained of hearing difficulties and the doctors found her kidney function was impaired. Her hearing improved on cessation of treatment; however, the kidney ailment persisted.

Research work at the hospital laboratory already has been successful in isolating 62 organisms of wide variety which are sensitive to neomycin but resistant, or only slightly sensitive, to other antibiotics.

Buy U.S. Savings Bonds

COLLECTIONS—with dignity and the utmost efficiency, recognized and recommended to the profession for over twenty years.

Seven Eighty-five Market Street San Francisco EXbrook 2-1670

"Representing Doctors of California by the Hundreds"

PROCREDIT COMPANY

Professional Finance & Credit Service "ASK ANY DOCTOR"

Represented by bonded agents throughout the United States

LIVERMORE SANITARIUM

• The Hydropathic Department devoted to the treatment of general diseases, excluding surgical and acute infectious cases. Special attention given functional and organic nervous diseases. A well equipped clinical laboratory and modern X-ray Department are in use for diagnosis.

• The Cottage Department (for mental patients) has its own facilities for hydropathic and other treatments. It consists of small cottages with homelike surroundings, permitting the segregation of patients in accordance with the type of psychosis. Also bungalows for individual patients, offering the highest class of accommodations with privacy and comfort.

GENERAL FEATURES

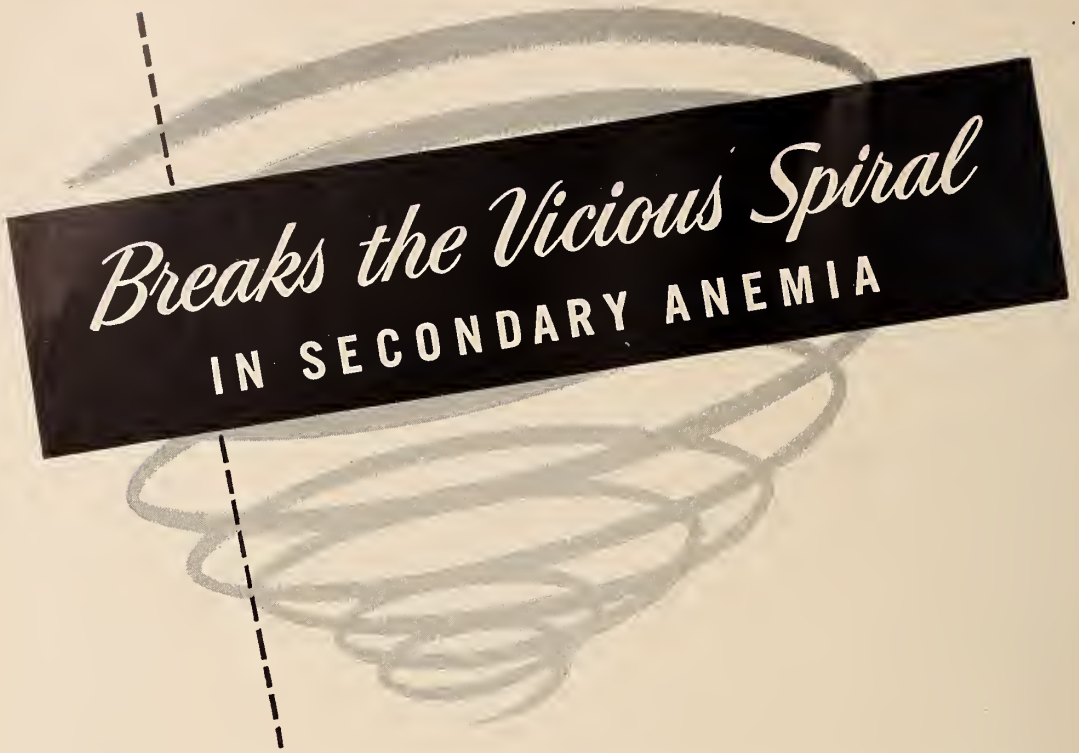
1. Climatic advantages not excelled in United States. Beautiful grounds and attractive surrounding country.
2. Indoor and outdoor gymnastics under the charge of an athletic director. An excellent Occupational Department.
3. A resident medical staff. A large and well-trained nursing staff so that each patient is given careful individual attention.

Information and circulars upon request.
Address: O. B. JENSEN, M.D.
Superintendent and Medical Director
LIVERMORE, CALIFORNIA
Telephone 313

CITY OFFICES:

SAN FRANCISCO
450 Sutter Street
GArfield 1-5040

OAKLAND
1624 Franklin Street
GLencourt 1-5988



For the many patients who require more than iron alone to show satisfactory progress in secondary anemia, Livitamin Capsules offer sound therapy.

By correcting anorexia and faulty intestinal absorption, the vicious spiral so frequently responsible for anemia is broken.

Supplying generous amounts of vitamin B_{12} together with iron and other factors of the B complex, Livitamin Capsules aid in maintaining the appetite and normal gastrointestinal function.

Livitamin is well tolerated and may be given to children as well as to adults. This complete approach to hypochromic anemia produces gratifying and prompt improvement in both the blood picture and clinical manifestations. Available also as Livitamin with Iron (in liquid form).

THE S. E. MASSENGILL COMPANY
Bristol, Tenn.-Va.
NEW YORK • SAN FRANCISCO • KANSAS CITY

SEMCO

Livitamin CAPSULES B12—LIVER—IRON

Each capsule contains:

Desiccated Liver	0.5 Gm.
Ferrous Sulfate (equivalent to 25 mg. elemental iron)	.125 Gm.
Thiamine Hydrochloride	3 mg.
Riboflavin	3 mg.
Nicotinamide	10 mg.
Pyridoxine	0.5 mg.
Calcium Pantothenate	2 mg.
B_{12}	2 micrograms

Available on prescription in all pharmacies.
Write for sample and literature.

why write 2 . . . . when 1 will do?

For prescriptions — all pharmacies stock 2 oz. jars; for dispensing purposes, 1 lb. jars available through your surgical supply dealer.

Now, all in one preparation, HISTAR brings you a stable, balanced combination of a proven antihistaminic and tar extract for many allergic skin disorders.

HISTAR combines pyrilamine maleate 2% (formerly called pyranisamine maleate) with special process extract of coal tar 5% (Tarbonis brand) in a water-miscible, hydrophilic cream base, clean and non-staining in use.

Months of pharmaceutical research assure a completely stable emulsion. The antihistamine works to relieve the itching, swelling and burning that generally accompany many allergic dermatologic disorders, while the special process extract of tar treats the condition itself. It is especially indicated in neurodermatitis, atopic dermatitis, urticaria, the allergic rashes, etc.

No longer need you write two prescriptions. HISTAR's synergistic action provides the complete cycle of therapy in one easy to use clinically proven product. Your patient will appreciate its simplicity of application.

HISTARx
TRADE MARK

HISTAR—a product of
THE TARBONIS COMPANY
4300 Euclid Avenue, Cleveland 3, Ohio

THE TARBONIS COMPANY Dept. CM
4300 Euclid Avenue, Cleveland 3, Ohio

Please send literature and clinical sample of HISTAR.

Name_____ M.D.

Address_____

City_____ Zone____ State____

FIND ESTROGEN THERAPY AIDS ACNE SUFFERERS

Treatment of some forms of acne with estrogens continues to give promising results, reports Dr. Irving Shapiro of Newark in a recent issue of the *Archives of Dermatology and Syphilology*, published by the American Medical Association.

Dr. Shapiro, who made his preliminary study in March 1949, found remission of the disease in 60 per cent of his newest group of 25 patients. The estrogenic substance, in the form of a cream, is obtainable only on a doctor's prescription.

"In 15 patients the results were excellent," he reported, adding that results were good in four cases, fair in three and that three of the patients could not tolerate the cream because of itching, flare-ups and cosmetic disagreeableness.

Ten of Dr. Shapiro's patients were men and 15 were women. Their ages ranged from 17 to 30 years. All patients at the beginning of treatment had the usual signs of an adolescent type of acne—oiliness, pimples and blackheads. The usual methods of treatment, including x-ray and ultraviolet ray treatment and dietary controls, which have been found to be successful in 80 per cent of common acne cases, had been tried without success on this group of patients, Dr. Shapiro said.

The cream was applied to locally affected areas once daily or divided into morning and evening applications.

The Colfax Hospital for the Tuberculous

(Formerly a Unit of the Colfax School for the Tuberculous)

Colfax, California

For the Treatment of Pulmonary Tuberculosis

Vernon W. Padgett, M.D. — *Medical Director* — Colfax, California

Robert A. Peers, M.D., F.A.C.P. — *Consultant* — Colfax, California

Emile F. Holman, M.D., F.A.C.S. — *Thoracic Surgeon* — Stanford Hospital

Rooms again Available especially FRIDAYS • SATURDAYS SUNDAYS

THE BILTMORE HOTEL LOS ANGELES

DINING AND DANCING *in the* *World Famous* BILTMORE BOWL

Two Floor Shows Nightly 8:45 and 11:45

WRITE • WIRE • TELEPHONE MICHIGAN 1011

a reliable quick acting

SEDATIVE SPASMOLYTIC

ELDONAL

CANRIGHT

A well balanced Bellodonna derivative formula—plus PENTObarbitol—without undesirable side effects or cumulative reactions.

Formula

Each tablet contains:

Hyoscyamine Sulfate.....0.156 mg.
Atropine Sulfate.....0.029 mg.
Hyoscine Hydrobromide..0.01 mg.
PENTObarbital Sodium (1/4 gr.).....16.2 mg.

Other Canright Quality Prescription Specialties

DIGESTANT • MATRIGEL • ELPRECAL
ELDOVITE • OBRICAL • HEMATINIC
HEMAFOLATE

ELDON H. CANRIGHT COMPANY
INCORPORATED
GLENDALE, CALIF. • ORLANDO, FLORIDA

patients can't

"SLEEP OFF" *hypertension...*

prolonged vasodilation should accompany sleep as well as the day's activities. (One more reason why NITRANITOL is the most universally prescribed drug in the management of hypertension.)

NITRANITOL®

FOR GRADUAL, PROLONGED, SAFE VASODILATION

Merrell
1828
CINCINNATI • U.S.A.

When vasodilation alone is indicated. *Nitranitol.* (½ gr. mannitol hexanitrate.)

When sedation is desired. *Nitranitol with Phenobarbital.* (¼ gr. Phenobarbital combined with ½ gr. mannitol hexanitrate.)

For extra protection against hazards of capillary fragility. *Nitranitol with Phenobarbital and Rutin.* (Combines Rutin 20 mg. with above formula.)

When the threat of cardiac failure exists. *Nitranitol with Phenobarbital and Theophylline.* (½ gr. mannitol hexanitrate combined with ¼ gr. Phenobarbital and 1½ grs. Theophylline.)

USE STREPTOKINASE, STREPTODORNASE IN MANAGEMENT OF INFECTIONS

The use of two biologic compounds to liquefy blood clots, pus and other waste products produced by certain types of infections and injuries, thus permitting their removal from the diseased area, is described in a recent issue of the *Journal of the American Medical Association.*

Removal of waste material from infected and wounded areas is a prime requisite for healing and growth of healthy tissue. Formerly an extensive operation was necessary to remove waste material from the chest cavity.

Doctors Joseph M. Miller, Milton Ginsberg, Raymond J. Lipin and Perrin H. Long of Johns Hopkins University School of Medicine (Baltimore) treated 85 patients with streptokinase and streptodornase with excellent results in 80 cases. They said infection in the remaining five appeared to have advanced too far for effective treatment with the compounds. Doctors Miller, Ginsberg and Lipin are also associated with the Veterans Administration hospital, Fort Howard, Md.

Although streptokinase and streptodornase, excreted during the active growth of certain kinds of harmful bacteria, are not new compounds, they have been used only experimentally up to this time.

The types of injury or infection in which the compounds were found to be most effective were those characterized by clotting and the collecting of pus and debris into walled off areas which produce a honeycomb-like partition of the infected tissue. Thirteen different kinds of infections were represented in the group of 85 patients, the most numerous being bedsores, rectal infections, amputated stump infections, pilonidal cysts with abscesses, soft tissue infections, and blood collections in the chest cavity.

The procedure in the use of these compounds is to inject the substances by needle into closed areas and to insert a nylon pack saturated with the substances into open infections and wounds. The walls of the honeycomb structure produced by the waste material are dissolved and liquefied, permitting any pus collection and waste materials to be drained away, the doctors explained.

The doctors report there were no harmful effects on living, healthy tissue from the two compounds.

PARK SANITARIUM

A proprietary institution for the care and treatment of alcoholic, addiction, and mental patients.

SINCE 1912

1500 PAGE STREET
SAN FRANCISCO 17

Telephone
MArket 1-4343

IN ATHEROSCLEROSIS

a more favorable prognosis usually follows the use of . . .

LIPO-B

an orally effective lipotropic compound

FORMULA: Six tablets daily pravide—

Chaline Dihydragen Citrate	1,800 mg.
Inasital	900 mg.
Pyridaxine HCl	12 mg.
Niacinamide	120 mg.
Ribaflavin	24 mg.
Thiamine HCl	12 mg.
Calcium Pantathenate	12 mg.

DOSAGE: Two to six tablets doily.

SUPPLIED: Bottles of 100 ond 1,000 speciolly coated tablets.

Indicated in the management of EXCESSIVE BLOOD CHOLESTEROL

Literature and Samples an Request

UNITED LABORATORIES, LTD.

PASADENA • Established 1917 • CALIFORNIA

LUBRICOID ACTION

without oil

IN CONSTIPATION MANAGEMENT

TURICUM

TRADE MARK

HYDROPHILIC LUBRICOID

—presents methylcellulose as a gel, to which magnesium hydroxide is added in less than laxative dosage to assure continued hydration of the gel throughout the intestinal tract.

In maintaining an osmotic equilibrium, the magnesium ion attracts and retains adequate water to keep the methylcellulose in the form of a soft gel—providing a distinctive efficient *lubricoid* action which promotes gentle elimination.

Each tablespoonful of Turicum contains:

METHYLCELLULOSE	0.3 Gm.
MAGNESIUM HYDROXIDE	0.6 Gm.

The Turicum formula assures:

- *lubricous bulk to encourage normal evacuation*
- *good distribution throughout the bowel*
- *no bloating*
- *no danger of impaction*
- *no interference with utilization of oil-soluble vitamins*
- *no danger of lipid pneumonia*
- *no leakage*

Turicum is available in one pint bottles.

Whittier LABORATORIES

DIVISION NUTRITION RESEARCH LABORATORIES, INC.,
CHICAGO 11, ILLINOIS

ANOTHER STUDY SHOWS ANTIHISTAMINICS INEFFECTIVE IN TREATMENT OF COLDS

Carefully controlled studies conducted at the University of Illinois College of Medicine and the Chicago College of Optometry "demonstrate that antihistaminic drugs do not prevent, abort, shorten, curtail. reduce or stop the common cold," according to Dr. Noah D. Fabricant of Chicago.

Dr. Fabricant, clinical assistant professor of otolaryngology at the university, reported these findings in the A.M.A. *Archives of Otolaryngology* published by the American Medical Association. He confirmed numerous similar studies in the United States and Great Britain.

"It was observed," he said, "that antihistaminic drugs are no more effective than placebos in aborting a cold and that there is no validity to the contention that antihistaminic drugs are more effective if taken within a short time after the start of a cold.

He cited like findings in other studies and added that "sufficient time has elapsed and enough convincing evidence has been accumulated" to establish the ineffectiveness of the drugs in the treatment and prevention of colds.

Dr. Fabricant's studies involved 139 students at the Chicago College of Optometry and 74 students at the University of Illinois College of Medicine. They were conducted through the winter and early spring of 1950.

The Alexander Sanatorium, Inc.

Situated in the Foothills of
BELMONT, CALIFORNIA

Specialized care of Convalescents; also NERVOUS, MENTAL and ALCOHOLIC Patients.

Experienced Staff for the application of INSULIN and ELECTRIC SHOCK Therapies and for the CONDITIONED REFLEX TREATMENT of ALCOHOLISM.

Recognized by the American Medical Association; Member of Association of Private Mental Hospitals and of the Western Hospital Association.

MRS. A. S. ALEXANDER, *President* Telephone: LYtell 3-2143

Examination Gowns Are Important

TO THE DOCTOR
Ease of Use . . . Lang Wear
Low Upkeep . . . Lower Net Cast

TO THE PATIENT
For Madest Comfort

This kimono style made of sanforized DANOC materials, satisfies all these requirements. Will launder flat, is full cut and is 45 inches long.

Sanforized linene or preshrunk plissé in medium and large sizes.

$3.95 each
$45 dozen

Contract prices an large quantities.

DANOC QUALITY FIRST A·S·W·GRUNDY

For Over 40 Years QUALITY MERCHANDISE

Write for Free Catalogue and Material Samples

Doctors & Nurses Outfitting Co., Inc.
1214 Sutter Street San Francisco 9, Calif.
Established 1910

French Hospital

Geary Boulevard and Fifth Avenue
SAN FRANCISCO, CALIFORNIA

A general hospital of 225 beds operating an accredited School of Nursing, admitting all classes of patients except those suffering from mental diseases. Organized in 1851 and operated by the French Mutual Benevolent Society through a Board of Directors, a chief executive officer and staff. Accredited for intern training by the American Medical Association and approved by the American College of Surgeons.

Staff

Alfred Raynal.....*President*
Louis Alaux.....*Secretary*
E. C. H. Pearson.....*Superintendent*
William L. Rogers, M.D.....*Chief of Staff*
Forrest M. Willett, M.D.....*President of Staff*
R. L. Smith, M.D.....*Secretary of Staff*

REPORT IMPROVED NERVE BLOCK TECHNIQUE IN PAINLESS CHILDBIRTH

An improvement of the nerve block technique in painless childbirth, involving only one site of injection instead of the former two or four, is described in a recent issue of the *Journal of the American Medical Association.*

Dr. Orlen J. Johnson of Bay City, Michigan, reports that he has used the new technique on 161 women, of whom 92 were becoming mothers for the first time.

With skilled injection, he explained, the patient complains of no discomfort. He added that no reactions from the procaine, a local anesthetic, or complications have been encountered and that there has been no greater discomfort or delay in the healing of the surgical incisions.

The most satisfying results, he reports, are obtained if the nerve block is made during the second stage of labor.

According to Dr. Johnson, the advantages of the nerve block method are:

(1) Greater cooperation of the patient and control of the baby's head as it advances through the birth canal; (2) less damage to the mother's tissues; (3) less surgical intervention on the part of the obstetrician; (4) no ill-effects on the baby from this type of anesthesia; (5) slighter chances of hemorrhage.

"The advent of 'painless childbirth' or, more appropriately, 'childbirth without fear,' when coupled with other advances which have lowered mortality and morbidity, can bring a new era in obstetrics," he said.

HAVE YOU CHANGED YOUR ADDRESS RECENTLY?

To insure uninterrupted delivery of your copies of CALIFORNIA MEDICINE, please return this coupon properly filled out. Address CALIFORNIA MEDICINE, 450 Sutter Street, Room 2009, San Francisco 8, California.

Name.....M.D.
(PLEASE PRINT)

Former address:
Street.....
City.....
Zone.....State.....

New address:
Street.....
City.....
Zone.....State.....

(Please use this coupon for address change only)

Duplicate copies cannot be sent to replace those undelivered through failure to notify this office of change of address.

ACCIDENT · HOSPITAL · SICKNESS

INSURANCE

FOR PHYSICIANS, SURGEONS, DENTISTS EXCLUSIVELY

ALL PREMIUMS COME FROM — PHYSICIANS SURGEONS DENTISTS — ALL CLAIMS GO TO

$ 5,000.00 accidental death	$ 8.00
$25.00 weekly indemnity, accident and sickness	Quarterly
$10,000.00 accidental death	$16.00
$50.00 weekly indemnity, accident and sickness	Quarterly
$15,000.00 accidental death	$24.00
$75.00 weekly indemnity, accident and sickness	Quarterly
$20,000.00 accidental death	$32.00
$100.00 weekly indemnity, accident and sickness	Quarterly

Cost has never exceeded amounts shown

ALSO HOSPITAL EXPENSE FOR MEMBERS' WIVES AND CHILDREN

85c out of each $1.00 gross income used for members' benefits

$4,000,000.00 *Invested Assets* — $17,000,000.00 *Paid for Claims*

$200,000.00 deposited with State of Nebraska for protection of our members

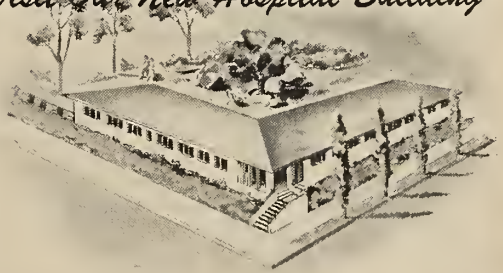
Disability need not be incurred in line of duty—benefits from the beginning day of disability

PHYSICIANS CASUALTY ASSOCIATION
PHYSICIANS HEALTH ASSOCIATION

49 years under the same management

400 First National Bank Bldg., Omaha 2, Nebraska

Visit Our New Hospital Building



Serving the Medical Profession Since 1935

HYGEIA SANATORIUM

Finest, Modern Accommodations for Treatment of Nervous Cases and

ALCOHOLICS

•

Conditioned Reflex Aversion Method
Treatment and Consultation Rooms for Visiting Physicians
Facilities Available for Shock Therapy

•

Recognized by the American Medical Association

2534 BEVERLY BOULEVARD • LOS ANGELES 4, CALIF.
DUnkirk 8-8178

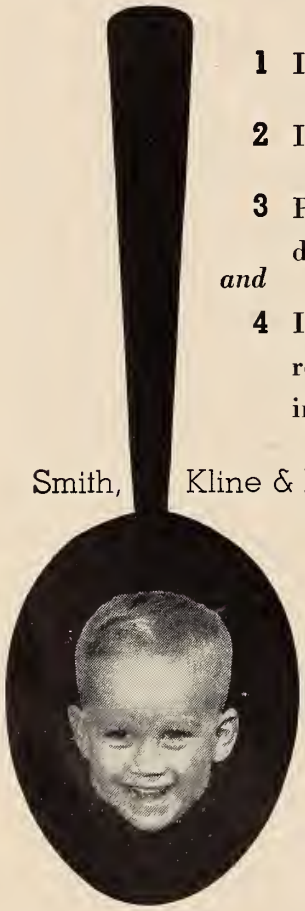
Advertisers in your OFFICIAL JOURNAL *will appreciate requests for literature*

when you prescribe

phenobarbital

remember this superior presentation:

Eskaphen B Elixir the delightfully palatable combination of phenobarbital and thiamine



1 Its fluid form makes it easy to take

2 Its delicious flavor makes it pleasant to take

3 Patients who "know all about sleeping tablets" don't know you are prescribing a barbiturate

and

4 It provides nearly three times the recommended daily allowance of thiamine in each 5 cc. teaspoonful

Smith, Kline & French Laboratories • Philadelphia

Each 5 cc. teaspoonful contains
phenobarbital, ¼ gr.,
thiamine, 5 mg.

'Eskaphen B' T.M. Reg. U.S. Pat. Off.

Each cc. contains: Liver concentrate, from 7.8 gm. whole liver; ferrous gluconate, 65 mg.; thiamine hydrochloride, 1 mg.; riboflavin, 1 mg.; nicotinamide, 8 mg; folic acid, 1 mg.; alcohol, 1½%.

SEX MANUAL

For Those Married or About To Be

Written for the Layman

Fifth Edition, Revised. A medical best seller. Twelve printings. 400,000 copies.

By G. Lombard Kelly, A.B., B.S. Med., M.D., President and Professor of Anatomy, Medical College of Georgia.

With a foreword by

Robert B. Greenblatt, B.A., M.D., Professor of Endocrinology in the Medical College of Georgia.

Ethically distributed. Sold only to physicians, medical students, nurses, medical bookstores or on physician's prescription. This policy strictly adhered to.

Some of the 25 chapters cover sexual lubricants, use of condom, first intercourse, frequency, positions, clitoris contact, orgasm delay by local anesthesia, impotence, climacteric, birth control, etc.

Paper cover, 88 pp. (35,000 words), 12 cuts, single copy, 76c; 2 to 9 copies, 66c ea.; 10 to 24 copies, 61c ea.; 25 to 49 copies, 51c ea.; 50 to 99 copies, 46c ea.; 100 or more, 41c ea.; POSTPAID.

Terms: REMITTANCE WITH ORDER; NO C.O.D.'s. Satisfaction guaranteed. Retail price, $1.00 to patients, in medical bookstores, or when sold on prescription. Descriptive folder on request.

SOUTHERN MEDICAL SUPPLY CO.
P.O. Box 1168-C, Augusta, Ga.

COOK COUNTY

Graduate School of Medicine

ANNOUNCES CONTINUOUS COURSES

SURGERY—Intensive Course in Surgical Technic, Two Weeks, starting April 16, April 30, May 14.
Surgical Technic, Surgical Anatomy & Clinical Surgery, Four Weeks, starting April 30, June 4, July 9.
Surgical Anatomy & Clinical Surgery, Two Weeks, starting April 16, May 14, June 18.
Surgery of Colon & Rectum, One Week, starting May 14, June 4.
Esophageal Surgery, One Week, starting June 4.
Thoracic Surgery, One Week, starting June 11.
Gallbladder Surgery, Ten Hours, starting June 18.
Breast & Thyroid Surgery, One Week, starting June 25.

GYNECOLOGY—Intensive Course, Two Weeks, starting April 16, June 18.
Vaginal Approach to Pelvic Surgery, One Week, starting May 7, June 11.

OBSTETRICS—Intensive Course, Two Weeks, starting June 4.

MEDICINE—Intensive General Course, Two Weeks, starting April 23.
Gastroenterology, Two Weeks, starting May 14.
Gastroscopy, Two Weeks, starting May 14.
Electrocardiography & Heart Disease, Two Weeks, starting July 16.

PEDIATRICS—Congenital & Acquired Heart Disease in Children, Two Weeks, starting May 7.
Cerebral Palsy, Two Weeks, starting July 9.
One Year Full Time Clinical Course starting July 2.

GENERAL, INTENSIVE AND SPECIAL COURSES IN ALL BRANCHES OF MEDICINE, SURGERY AND THE SPECIALTIES

TEACHING FACULTY—ATTENDING STAFF OF COOK COUNTY HOSPITAL

Address: REGISTRAR, 427 South Honore Street
Chicago 12, Illinois

REPORT ORAL USE OF CORTISONE EFFECTIVE IN RHEUMATOID ARTHRITIS

Two Los Angeles physicians report that cortisone given by mouth is just as effective as intramuscular injections of the drug in the treatment of rheumatoid arthritis and, in addition, has distinct advantages.

Writing in a recent issue of the *Journal of the American Medical Association*, Drs. Edward W. Boland and Nathan E. Headley, specialists in internal medicine, describe their observations of 23 patients who were given oral preparations of cortisone. For control purposes, 14 were selected because they had previously received intramuscular injections of the drug.

In 22 of the 23 patients, they found oral preparations were "highly effective" in suppressing the activity of the disease or maintaining control of the rheumatic manifestations, or both. They added:

"The pattern of improvement with initial large suppressive doses of cortisone given by mouth was similar to that observed in patients who have received equivalent amounts of the hormone by intramuscular injection."

It was suggested, however, that doses of one-fifth to one-third more may be necessary if the drug is given orally.

They found, in general, that while beneficial effects were produced more rapidly with oral use of the drug, these benefits also disappeared more quickly. These observations were further supported by the fact that results were "definitely best" when the drug was taken in divided doses throughout the day instead of in one large dose.

Effects of the drug were noted in from five to 48 hours when given orally. This is in contrast to the 48 to 72 hours usually required with intramuscular injections.

The oral use of cortisone in treatment of chronic disease such as rheumatoid arthritis has distinct advantages, the doctors pointed out. The main arguments for oral use are: discomfort from repeated intramuscular injections is eliminated, the patient is made independent of others for his medicine, the stimulation of mental activity and appetite is less pronounced and it is less expensive.

The most serious objection to the use of cortisone for chronic rheumatoid arthritis, they said, "is the high incidence of hormonal side effects when administration is continued [and it must be continued, for effects are temporary and not curative], especially in large doses, for extended periods."

Adverse reactions were found to be substantially reduced by using smaller doses for prolonged control or by the employment of interrupted schedules of treatment rather than large continuous doses.

For doctors and laymen alike, Drs. Boland and Headley cautioned:

"Many more facts must be ascertained before this powerful hormone with its many physiological actions can be considered a safe therapeutic agent for general distribution and use."

Every Mother Quickly Understands these Simple Feeding Directions for...

Baker's Modified Milk

Feeding Directions

LIQUID—First 4 days—use 1 part of Boker's Milk to 2 parts of cool water, previously boiled.
After 4 days—use normal* strength, 1 part of Boker's Milk to 1 part of cool water, previously boiled.

POWDER—First 4 days—use 1 tablespoon of powder (well packed) to 3 ounces of worm water, previously boiled.
After 4 days—use normal* strength, 1 tablespoon of powder (well packed) to 2 ounces of worm water, previously boiled.

*Provides 20 colories per fluid ounce.

MADE FROM GRADE A MILK

POWDER and LIQUID

● Doctors who use Baker's know from experience that Baker's Modified Milk meets their requirements for most of their bottle-feeding cases, since Baker's is fed either complemental to, or entirely in place of Mother's milk. No formula change is required as baby grows older—merely increase the quantity of each feeding.

If you are not using Baker's, just leave instructions at the hospital to put your babies on Baker's.

BAKER'S MODIFIED MILK
THE BAKER LABORATORIES INC.
Main Office: Cleveland, Ohio
Plant: East Troy, Wisconsin
Divisian Offices: San Francisco, Las Angeles, Dallas, Denver, Seattle and Greensboro, N. C.

ACCEPTED COUNCIL ON FOODS AND NUTRITION AMERICAN MEDICAL ASSOCIATION

CALLS FOR COOPERATION IN OCCUPATIONAL CANCER CONTROL

With the knowledge that about 200 chemicals are possible cancer-producing substances, the director of the National Cancer Institute, Bethesda, Md., has called for the joint efforts of industrial and labor organizations combined with local, private and state health agencies to aid in the further discovery and control of these agents.

Research needed to solve the problem of environmental and occupational cancer presents a challenge of "tremendous proportions," said Dr. John R. Heller, Jr., in *Archives of Industrial Hygiene and Occupational Medicine*, published by the American Medical Association.

More research into the background and case histories of cancer patients, laboratory testing of suspected cancer-producing agents, follow-up studies of exposed workers and studies of safety procedures and preventive measures in plants where such substances are handled are necessary, believes Dr. Heller, to "solve the mystery" of environmental and occupational cancer.

Credit for making "remarkable progress" in meeting the hazard with practical solutions whenever possible is attributed, by Dr. Heller, to industry itself. He continued:

"As we increase our understanding of all the factors involved, changes in industrial operation may be necessary in some cases in order to protect employees and the public. It is important to empha-

(Continued on Page 85)

Located 22 miles south of San Francisco. Accessible to transportation.

Belmont, Calif.

LYtell 3-0054 . . . . . Est. 1925

Twin Pines

NEUROPSYCHIATRIC SANITARIUM

In-potient services for ocute ond chronic emotionol illnesses

Electric shock — Insulin shock
Hydrotherapy — Psychotherapy
Occupational therapy

Out-potient services for selective coses

Open Visiting and Consulting Staff

Attending Staff:
A. T. VORIS, M.D., Medical Director
T. H. BOONE, M.D. • ROBERT E. JAMES, M.D.

. . . The Institute for

CHILD STUDY

A unified program for the study and personality adjustment of children. Services now offered include counselling; guidance; psychological testing; speech pathology; play therapy and educational therapy.

TRACY J. PUTNAM, M.D.
President

LOUISE J. GORDY, M.D.
Consultant Psychiatrist

ELISE HAHN, Ph.D.
Speech Pathologist

LILLIAN S. SLAFF, M.S.W.
Consultant Psychiatric Social Work

MARION B. GALE, M.S.
Child Psychologist

O. E. HOOD, M.S.
Executive Director

450 N. Bedford Drive, Beverly Hills, Calif.
Telephone: CRestview 4-5304

Southern Sierras Sanatarium

• for Tuberculosis and Allied Affections

BANNING, CALIFORNIA

Unsurpassed year-round climate
Near but not upon the desert
Absence of extremes • Altitude 2350 feet

Freedom from Smog

90 miles east of Los Angeles on Highways 99, 60 and 70

Sustained reputation for service and satisfaction

C. E. ATKINSON, M.D. . . *Medical Director*

Advertisers in your OFFICIAL JOURNAL *will appreciate requests for literature*

CALLS FOR COOPERATION IN OCCUPATIONAL CANCER CONTROL

(Continued from Page 84)

size, however, that more knowledge than we now have must be acquired before such action would be justified in many instances.

"The results of environmental, and especially occupational, cancer investigations, whether these deal with already known or with new hazards, should be widely disseminated.

"Our common experience in the control of other public health hazards has shown us that the effectiveness of control measures runs parallel to frank and open acknowledgment when the facts are known."

Dr. Heller pointed out that "research done on laboratory animals can serve to alert us to the chemicals which may possess potential cancerigenic properties in human subjects. Considering that a danger of the chemical cancerigens lies in the slow, almost unnoticeable harm that comes from contact with them, it might be wise from a preventive point of view to consider all chemical agents which have elicited cancers in animals as having the potential properties for producing cancer in the human organism."

Las Encinas
SANITARIUM
INTERNAL MEDICINE • NERVOUS DISORDERS

MEDICAL STAFF
CHARLES W. THOMPSON, M.D., F.A.C.P.
DIRECTOR
CLIFTON H. BRIGGS, M.D., F.A.C.S.
ASSOCIATE DIRECTOR
ETHEL FANSON, M.D.
DOUGLAS R. DODGE, M.D.
CARLOS F. SACASA, M.D.
HERBERT A. DUNCAN, M.D.
KENNETH P. NASH, M.D.
STEPHEN SMITH, III, M.D.

PASADENA, CALIFORNIA

RALEIGH HILLS SANITARIUM, Inc.

Recognized by the American Medical Association

Member: American Hospital Association

Exclusively for the treatment of

Chronic Alcoholism

by the Conditioned Reflex and Adjuvant Methods

MEDICAL STAFF

Ernest L. Boylen, M.D.
William C. Panton, M.D.
James G. Perkins, M.D.
John R. Montague, M.D.
John W. Evans, M.D.
Psychiatrist

B. S. P. MILES, Administrator

S. W. Scholls Ferry Road
P. O. Box 366 Portland 7, Oregon
Telephone CHerry 1144

MENOPAUSAL Check and Balance

TEST-ESTRIN (MARLYN)

a mixture of ESTROGEN plus ANDROGEN

The dual effect of its mixed steroids produces a greater sense of confidence and well-being. Mutually inhibiting effects of the two hormones bring freedom from the commonly seen side effects of estrogens alone.

A *smoother physiological transition* in a vast majority of cases.

for buccal or sub-lingual administration

TEST-ESTRIN TABLETS

Full Strength
A-Estradiol U.S.P. ..... 0.5 mg.
Testosterone Crystalline ..... 2.5 mg.

Half Strength
A-Estradiol U.S.P. ..... 0.25 mg.
Testosterone Crystalline ..... 1.25 mg.

for parenteral administration

TEST-ESTRIN INJECTABLE

Each c.c. contains:
A-Estradiol U.S.P. ..... 1.0 mg.
Testosterone Prop. ..... 10. mg.
In Sesame Oil

Literature on request

MARLYN COMPANY, INC.
309 North Edinburgh, Los Angeles 48, Calif.

Plan to Attend the

80th Annual Session

CALIFORNIA MEDICAL ASSOCIATION

May 13-16

1951

+

LOS ANGELES BILTMORE HOTEL

BOOKS RECEIVED

AMINO ACIDS AND PROTEINS—Theory, Methods and Application. Compiled and Edited by David M. Greenberg, Ph.D., Professor of Biochemistry and Chairman of the Division, University of California School of Medicine, Berkeley, California. Charles C. Thomas, Publisher, Springfield, Illinois, 1951. 950 pages. $15.00.

CHECK—Community Health Educator's Compendium of Knowledge. Clair E. Turner. A.M., Ed.M., D.Sc., Dr.P.H., Professor of Public Health Emeritus, Massachusetts Institute of Technology. The C. V. Mosby Company, Baltimore. 1951. 266 pages. $3.00.

DIABETES GUIDE BOOK FOR THE PHYSICIAN—American Diabetes Association, Inc., 11 West 42nd Street, New York 18, N. Y., 1950. 79 pages.

EYE MANIFESTATIONS OF INTERNAL DISEASES (MEDICAL OPHTHALMOLOGY)—I. S. Tassman, M.D., Associate Professor of Ophthalmology, Graduate School of Medicine, University of Pennsylvania, Philadelphia; Attending Surgeon, Wills Eye Hospital, Philadelphia, Pa. Third Edition. 279 illustrations, including 25 in color. The C. V. Mosby Company, St. Louis, 1951. 672 pages. $12.00.

HEART DISEASE—ITS DIAGNOSIS AND TREATMENT—Emanuel Goldberger, B.S., M.D., Associate Attending Physician, Montefiore Hospital, New York; Lecturer in Medicine, Columbia University. 90 illustrations. Lea & Febiger, Philadelphia. 1951. 651 pages. $10.00.

HOW TO STOP SNORING—David Horwich, Exposition Press, 386 Fourth Ave., New York, N. Y. 1951. $2.00.

JOHN HUNTER—S. Roodhouse Gloyne, M.D. (Leeds), Consulting Pathologist, London Chest Hospital and King Edward Sanatorium, Midhurst. The Williams and Wilkins Company, Baltimore. 1950. 104 pages.

MICROKARYOCYTES, THE, The Fourth Corpuscles and Their Functions—K. G. Khorozian, A.B., M.S., M.D., Pineville, West Virginia. Meador Publishing Company, 324 Newbury Street, Boston, Mass. 1951. 969 pages. $12.00.

NEUROTIC COUNTERFEIT-SEX—Impotence, Frigidity, "Mechanical" and Pseudosexuality, Homosexuality—Edmund Bergler, M.D. Grune and Stratton, New York, 1951. 360 pages. $5.50.

PHYSIOLOGY AND PATHOLOGY OF HEMOSTASIS, THE—Armand J. Quick, Ph.D., M.D., Professor of Biochemistry, Marquette University School of Medicine. 18 illustrations. Lea & Febiger, Philadelphia. 1951. 188 pages. $4.00.

TEXTBOOK OF THE PRACTICE OF MEDICINE, A—By Various Authors—Edited by Frederick W. Price, F.R.S.Ed., M.D., C.M.Ed., F.R.C.P. Lond., Hon. M.D. Belf., Consulting Physician to the Royal Northern Hospital and to the National Hospital for Diseases of the Heart, London. Eighth Edition. Oxford University Press, 1950. 2,075 pages. $9.00.

TRENDS IN GERONTOLOGY—Nathan W. Shock, Chief, Section on Gerontology, National Heart Institute, National Institutes of Health and the Baltimore City Hospitals. A companion volume to "Classified Bibliography of Gerontology and Geriatrics." Stanford University Press, Stanford, California. 1951. 153 pages. $2.50.

CLASSIFIED BIBLIOGRAPHY OF GERONTOLOGY AND GERIATRICS, A—Prepared for Stanford University under a grant from The Forest Park Foundation, Peoria, Illinois—Nathan W. Shock, Chief, Section on Gerontology, National Heart Institute, National Institutes of Health, and Baltimore City Hospitals. A companion volume to "Trends in Gerontology." Stanford University Press, Stanford, California. 1951. 599 pages. $15.00.

VIRUS AND RICKETTSIAL DISEASES—S. P. Bedson, M.D., F.R.C.P., F.R.S., Professor of Bacteriology, London Hospital; A. W. Downie, D.Sc., M.D., Professor of Biology, University of Liverpool; F. O. MacCallum, B.Sc., M.D., Director Virus Laboratory, Central Public Health Laboratory; C. H. Stuart-Harris, M.D., F.R.C.P., Professor of Medicine, University of Sheffield. The Williams and Wilkins Company, Baltimore, 1950. 383 pages. $5.50.

One Tablet corresponds to one Teaspoonful (4 cc.)

Phenobarbital . . . . 0.25 grain
Warning:
May be habit forming
Vitamin B_1 . . . . . 1.5 mg.
Vitamin B_2 . . . . . 1.0 mg.
Vitamin B_6 . . . . . 0.33 mg.
Vitamin B_{12} . . . . . 1.66 mcg.
Niacinamide . . . . . 10.0 mg.

Thus, the physician can select the form of medication best suited to his purpose—the delicious elixir, or the handy-to-carry tablets.

In nervousness and fatigue, a judicious combination of low dosage sedation and high dosage B-complex therapy often provides gratifying relief. BĒPLETE supplies both adjuncts, including vitamin B_{12}.

WYETH INCORPORATED
Philadelphia 2, Pa.

Doctor...
listen to this conversation about you!

PATIENT... *There was so little discomfort in having that mole removed.*

NURSE ... *The Doctor's new technic with the HYFRECATOR is wonderful!*

PATIENT... *You can tell the Doctor I'm going to have my sister come in. She worries about a mole on her abdomen.*

NURSE ... *It's a good idea to have him look at it to make sure... and he'll know if it should be eradicated with the HYFRECATOR.*

And Doctor... Please Note

The increasingly widespread public knowledge of the danger of moles as fore-runners of skin cancer have made your patients more receptive to your suggestion that all suspect lesions be eradicated. New reprints on Precancerous Lesions are available. Write your name and address—mail for your copies.

Over 70,000
HYFRECATORS
in daily use

to eradicate moles, warts, unwanted hair and other superficial growths. Many doctors use the HYFRECATOR... High Frequency Eradicator... for fulguration and bi-active coagulation as well as desiccation. They find that the HYFRECATOR'S double spark gap power, accurately controlled and smoothly graded current... exactly meets their individual office electrosurgical demands.

The BIRTCHER Corporation
Los Angeles 32, California

ERADICATE THAT SUSPECT PRECANCEROUS LESION

To: The BIRTCHER Corp., Dept. CM 5-51
5087 Huntington Dr., Los Angeles 32, Calif.
Please send me free reprints on Precancerous Lesions and Literature on the Hyfrecator.

Name.....

Street.....

City.....State.....

REPORT FATAL EFFECTS OF ANTIHISTAMINES ON CHILDREN

The disastrous effects of an overdose of an antihistamine on young children as a result of accidental swallowing are compiled in a report by two physicians of the University of Michigan Medical School. Their observations serve as a warning to parents to keep these and other potent drugs out of the reach of children.

"The susceptibility of children to the convulsant action of antihistaminic agents is striking and impressive." Drs. James B. Wyngaarden and Maurice H. Seevers of Ann Arbor say in a recent issue of the *Journal of the American Medical Association*. They added that "the mortality rate in infants in whom convulsions develop is very high." Antihistamines are being widely used in treatment of allergic diseases and cold symptoms.

(Dr. Wyngaarden is presently located at Massachusetts General Hospital, Boston.)

According to the article, there are at least eight known deaths of children under two years of age attributed to these drugs. Five of the deaths were accompanied by convulsions.

Treatment of convulsions from antihistaminic agents in infants has been found to be "none too successful," they said, since treatment is entirely symptomatic as a specific antidote is lacking. Only two cases of recovery from convulsions caused by antihistaminic agents in children under two are known.

The doctors described the sudden death of a 22-month-old boy who had been in good health except for a mild upper respiratory tract infection. He was brought to a physician about two hours after the alleged swallowing of a number of dimenhydrinate tablets (used for motion sickness, such as seasickness and carsickness). At first the baby was overstimulated and later generalized convulsions and skin rash developed.

Despite efforts to save him, the child died four and a half hours after swallowing the drug. As a result of postmortem examination the dimenhydrinate was listed as the cause of death "either as a direct toxic effect or partially as an indirect change resulting from anoxia."

The more violent reaction of a three-year-old girl to an antihistamine was also reported in the article though, fortunately, the girl recovered.

The girl "was found in a drowsy, listless, fretful state. She became disoriented and walked with a staggering, awkward gait. Jerkings of the extremities developed, and then she experienced generalized clonic convulsions."

She had been playing an hour and a half earlier in the bathroom from which 17 capsules of diphenhydramine hydrochloride (used in treatment of allergies) were later found to be missing. Treatment was begun about five hours after the supposed ingestion. The description of her condition continued:

"There were recurrent generalized convulsions for about eight hours; the face was flushed, and the pupils were dilated and nearly fixed. Between

(Continued on Page 14)

Effective Help

for Your

Hay Fever

Patients

As the distressing hay fever season approaches, the strikingly effective action of Neo-Antergan® can bring your patients the comfort of relief from symptoms. Its benefits in safely relieving symptoms of allergy are available only through your prescription. *Neo-Antergan is the physician's product, advertised exclusively to the Medical Profession.*

Your local pharmacy stocks Neo-Antergan Maleate in 25 mg. and 50 mg. coated tablets, in bottles of 100, 500, and 1,000.

NEO-ANTERGAN®

MALEATE

(Brand of Pyrilamine Maleate)
(Formerly called Pyronisamine Maleate)
(N-p-methoxybenzyl-N',N'-dimethyl-N-a-pyridylethylenediamine maleate)

COUNCIL ACCEPTED

MERCK & CO., INC.
Manufacturing Chemists
RAHWAY, NEW JERSEY

Advertisers in your OFFICIAL JOURNAL *will appreciate requests for literature*

REPORT FATAL EFFECTS OF ANTIHISTAMINES ON CHILDREN

(Continued from Page 10)

seizures the child cried out and talked in a rambling manner and showed hyperextension of the trunk and involuntary movements of the extremities. The next day she appeared normal."

The same issue of the *Journal* contains an editorial commenting on new controlled studies of the use of antihistamines in the treatment of colds. These included Navy male recruits during two influenza episodes.

Two antihistaminic drugs used in therapeutic dose "did not prevent the common cold or modify the course in those who developed colds," and showed no superiority over placebos, the *Journal* points out.

SIX-POINT PROGRAM IN FIGHT AGAINST TUBERCULOSIS OUTLINED

A six-point program for the prevention of tuberculosis—"the white plague"—is presented in a recent issue of *Today's Health*, published by the American Medical Association.

The program, outlined in an article by Dr. J. De Witt Fox of Takoma Park, Md., recommended:

1. Stay away from known spreaders of tuberculosis germs.
2. Watch out for people who cough and spit.
3. Avoid frequent colds and infections.
4. Live a healthful life. Eat a well balanced diet. Get plenty of rest and sleep.

(Continued on Page 18)

THE NEW YORK POLYCLINIC

MEDICAL SCHOOL AND HOSPITAL

(Organized 1881)

(The Pioneer Post-Graduate Medical Institution in America)

UROLOGY

A combined full-time course in Urology, covering an academic year (8 months). It comprises instruction in pharmacology; physiology; embryology; biochemistry; bacteriology and pathology; practical work in surgical anatomy and urological operative procedures on the cadaver; regional and general anesthesia (cadaver); office gynecology; proctological diagnosis; the use of the ophthalmoscope; physical diagnosis; roentgenological interpretation; electrocardiographic interpretation; dermatology and syphilology; neurology; physical medicine; continuous instruction in cystoendoscopic diagnosis and operative instrumental manipulation; operative surgical clinics; demonstrations in the operative instrumental management of bladder tumors and other vesical lesions as well as endoscopic prostatic resection.

DERMATOLOGY AND SYPHILOLOGY

A three year course, beginning in October, fulfilling all the requirements of the American Board of Dermatology and Syphilology. Also five-day seminars in Dermatopathology, for specialists and for general practitioners.

For Information Address: THE DEAN, 345 West 50th Street, New York 19, N. Y.

SEX MANUAL

For Those Married or About To Be

Written for the Layman

Fifth Edition, Revised. A medical best seller. Twelve printings. 400,000 copies.

By G. Lombard Kelly, A.B., B.S. Med., M.D., President and Professor of Anatomy, Medical College of Georgia.

With a foreword by

Robert B. Greenblatt, B.A., M.D., Professor of Endocrinology in the Medical College of Georgia.

Ethically distributed. Sold only to physicians, medical students, nurses, medical bookstores or on physician's prescription. This policy strictly adhered to.

Some of the 25 chapters cover sexual lubricants, use of condom, first intercourse, frequency, positions, clitoris contact, orgasm delay by local anesthesia, impotence, climacteric, birth control, etc.

Paper cover, 88 pp. (35,000 words), 12 cuts, single copy, 76c; 2 to 9 copies, 66c ea.; 10 to 24 copies, 61c ea.; 25 to 49 copies, 51c ea.; 50 to 99 copies, 46c ea.; 100 or more, 41c ea.; POSTPAID.

Terms: REMITTANCE WITH ORDER; NO C.O.D.'s. Satisfaction guaranteed. Retail price, $1.00 to patients, in medical bookstores, or when sold on prescription. Descriptive folder on request.

SOUTHERN MEDICAL SUPPLY CO.
P.O. Box 1168-C, Augusta, Ga.

ARTIFICIAL LIMB WEARERS

Hanger Limbs ore being successfully worn by amputees of oll ages. David Canfield, just 13 months *(illustrated)*, is one of the many young children growing up on Hanger Legs. In contrast, Captain W. T. Traylor, over 75 *(illustrated)*, now wears his fifth Hanger. He is a fire inspector who must cover continually hospitals, schools, sports events, etc., and be on his feet for hours at o time.

Age: 13 Months

The success of Hanger Limbs with omputees of such widely vorying types can be largely attributed to custom manufacture and individual fitting. Unusual conditions are corefully investigoted by experienced fitters, ond limbs are manufactured to meet individual requirements. The experience of Hanger's 90 years is given to every amputee so that his rehabilitation may be successful.

Age: 78 Years

HANGER ARTIFICIAL LIMBS

608 Hayes Street
San Francisco 2, California

Resmicon

MUCOPROTECTIVE, ACID-ADSORBENT, PEPSIN INACTIVATING

The introduction of Resmicon provides the physician with a new physiologically correct medicament for application to the problem of peptic ulcer management.

AN EXAMPLE OF TRUE SYNERGISM

Resmicon offers two synergistic components— (1) a fine-mesh resin for rapid, safe symptomatic control of hyperacidity; (2) the added protective coverage action of viscous natural mucin.

CLINICAL EVALUATION

Steigmann and Schlesinger* were most favorably impressed with the rationale and clinical value of Resmicon during their intensive 5-year study of the peptic ulcer problem.

Resmicon was given to a series of patients over a period of 2 to 15 months —*most of the patients being those who did not respond well to other antacid therapy.*

THE FINDINGS

The investigators found that most patients experienced *quick relief;* moreover *healing* was encouraged and the conclusion was drawn that—

> ". . . the admixture of gastric mucin enhances the antacid effect of the resins . . ."*

QUICK RELIEF

"Most patients had good symptomatic relief within the first week (2 to 7 days) of 'Resmicon' treatment . . . They felt better, ate better and gained weight. The majority took the tablets well and there were no complaints regarding constipation or diarrhea."

HEALING ENCOURAGED

"Simultaneously with clinical improvement the patients with gastric ulcer showed significant changes in the size of the craters when x-rays were taken at weekly or bi-monthly intervals. Those who were gastroscoped (a total of 19) also showed healing of the ulcer."

RESMICON *is supplied in bottles of 84 tablets.*

*Steigmann, F., and Schlesinger, R. B.: A Resin-Gastric Mucin Mixture in the Medical Management of Peptic Ulcer, American J. Dig. Dis. *17*:361-365 (Nov.) 1950.

Whittier
LABORATORIES

DIVISION NUTRITION RESEARCH LABORATORIES, INC.
CHICAGO 11, ILLINOIS

SIX-POINT PROGRAM IN FIGHT AGAINST TUBERCULOSIS OUTLINED

(Continued from Page 14)

5. Get to know a good doctor. See him whenever you need advice. Have him check your health at regular intervals.

6. Beginning in your teens, have a chest x-ray each year. This is the best way to find tuberculosis early.

Dr. Fox pointed out that for centuries tuberculosis was a leading cause of death in Europe. As recently as 1900 it was the most frequent cause of death among Americans, killing about 200 per 100,000 population. Since then it has declined gradually as a cause to eighth place with a mortality rate of 30 deaths per 100,000 population.

He ascribed this decline as "largely due to the unremitting efforts of physicians, nurses, public health workers and a well-informed public."

He pointed out that while some drugs have been found that hold promise in the cure of the disease, the best weapons still are prevention and early treatment.

"Because tuberculosis is a contagious disease, one should avoid contact with people known to have it in active form," he advised. "This includes even our dearest relatives; tuberculosis plays no favorites. The disease is spread by germs carried in the sputum (coughed-up discharge) of a person with

(Continued on Page 42)

The Alexander Sanatorium, Inc.

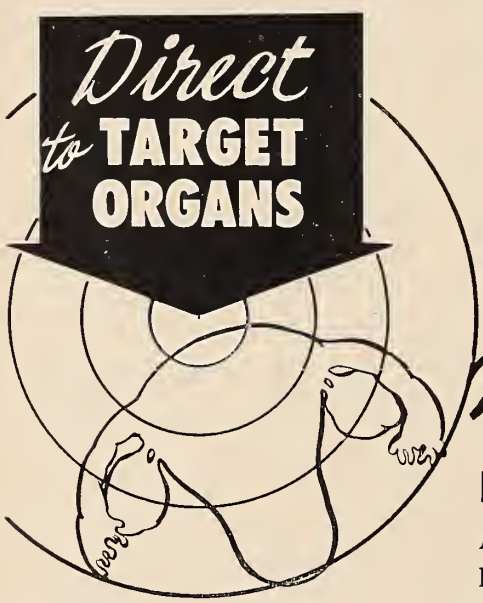
Situated in the Foothills of
BELMONT, CALIFORNIA

Specialized care of Convalescents; also NERVOUS, MENTAL and ALCOHOLIC Patients.

Experienced Staff for the application of INSULIN and ELECTRIC SHOCK Therapies and for the CONDITIONED REFLEX TREATMENT of ALCOHOLISM.

Recognized by the American Medical Association; Member of Association of Private Mental Hospitals and of the Western Hospital Association.

MRS. A. S. ALEXANDER, *President* Telephone: LYtell 3-2143



TEST-ESTRIN
Buccal TABLETS

The ORIGINAL mixture of ANDROGEN plus ESTROGEN in physiologic ratio

IN THE CLIMACTERIC

Absorption by oral mucosa into systemic circulation.
Bypassing the liver permits more complete utilization.
Approximates results of parental administration.
Facilitates maintenance therapy.

TEST-ESTRIN TABLETS
For buccal or sub-lingual administration

Full Strength	
A-Estradiol U.S.P.	0.5 mg.
Testosterone Crystalline	2.5 mg.
Half Strength	
A-Estradiol U.S.P.	0.25 mg.
Testosterone Crystalline	1.25 mg.

Test-Estrin Injectable also available

MARLYN CO., INC. • 309 N. Edinburgh, Los Angeles 48, Cal.

Advertisers in your OFFICIAL JOURNAL *will appreciate requests for literature*

Veratrite®

In Mild and Moderate Hypertension, a marked sense of well-being is provided by the routine administration of Tabules Veratrite. Pronounced relief of headache, dizziness, fatigue and nervous irritability is accompanied with a reduction in blood pressure. Veratrite lessens peripheral resistance without compromise of circulation.

Supplied: Bottles of 100, 500, 1000.

LITERATURE AND SAMPLES ON REQUEST

IRWIN, NEISLER & CO. **DECATUR, ILLINOIS**

STUDY INDICATES MANY WARTIME REJECTEES COULD HAVE SERVED

A large number of the 1,992,950 men rejected for military service because of mental and educational deficiency and neuropsychiatric conditions in World War II could have served profitably in some capacity, according to an article in a recent issue of the *Journal of the American Medical Association.*

In an effort to learn how manpower could better be utilized in a time of all-out emergency, Col. Richard H. Eanes of the Medical Corps, United States Army, and Doctors John R. Egan of Old Saybrook, Conn., and Lionel Jackson of Palo Alto, Calif., authors of the article, made a sample study of 2,054 men who were selected by the national headquarters of Selective Service. All of the men had been rejected for military service at one time for neuropsychiatric reasons but had later served as enlisted men.

Results of their study showed that 1,630 of these, or 79.5 per cent, had rendered satisfactory service while in the armed forces.

According to the article, a number of men in this sample group were borderline mental deficients, based on Army general classification tests, but served well as truck drivers and in other essential but non-combatant services from 20 to 32 months.

The authors added that whether a man turns in a maximum or a minimum job performance in a time of national emergency, he nevertheless has performed a service which has a face value.

The over-all number of rejections for military service, they said, from November 1940 to August 1945 was 6,419,700 out of the 17,954,500 examined, or 35.8 per cent. About 1,992,950, or 31 per cent of those rejected, were turned down primarily for neuropsychiatric reasons.

Applying the percentage resulting from their study to the over-all picture, they expressed the opinion that a large number of the 1,992,950 men rejected for neuropsychiatric reasons "would have served profitably in some capacity and would have been discharged honorably and without a neuropsychiatric disability."

The article said in part:

"It is a common belief that there was a great lack of proper manpower utilization in World War II....

"For a future emergency mobilization, the methods of the past, wherein the examination of a prospective recruit resulted merely in a cataloging of physical attributes, must be revised and some method devised whereby the examination may reflect the recruit's ability to serve. This may be accomplished, at least in part, by perfection of the profile system presently in use....

"Because of the lack of personnel and time, the neuropsychiatric examination, as it was carried out as a part of the process of examining men, was fair to neither the examiner nor the examinee. Some other method must be devised. A definite effort may be made by the Selective Service System to establish,

(Continued on Page 42)

LIVERMORE SANITARIUM

• The Hydropathic Department devoted to the treatment of general diseases, excluding surgical and acute infectious cases. Special attention given functional and organic nervous diseases. A well equipped clinical laboratory and modern X-ray Department are in use for diagnosis.

• The Cottage Department (for mental patients) has its own facilities for hydropathic and other treatments. It consists of small cottages with homelike surroundings, permitting the segregation of patients in accordance with the type of psychosis. Also bungalows for individual patients, offering the highest class of accommodations with privacy and comfort.

GENERAL FEATURES

1. Climatic advantages not excelled in United States. Beautiful grounds and attractive surrounding country.
2. Indoor and outdoor gymnastics under the charge of an athletic director. An excellent Occupational Department.
3. A resident medical staff. A large and well-trained nursing staff so that each patient is given careful individual attention.

Information and circulars upon request.
Address: O. B. JENSEN, M.D.
Superintendent and Medical Director
LIVERMORE, CALIFORNIA
Telephone 313

CITY OFFICES:

SAN FRANCISCO
450 Sutter Street
GArfield 1-5040

OAKLAND
1624 Franklin Street
GLencourt 1-5988

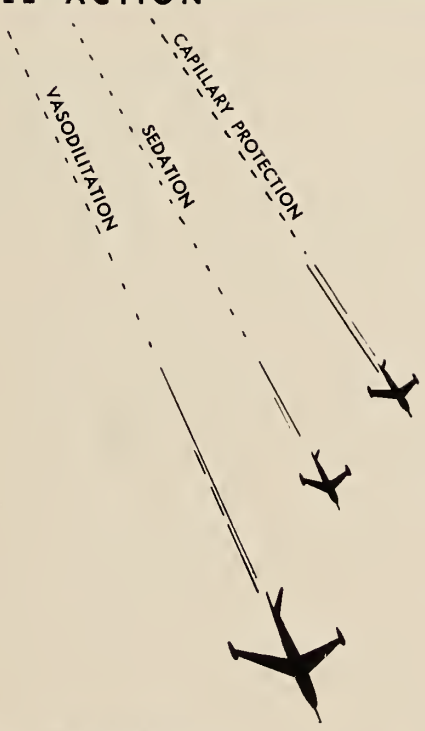
Advertisers in your OFFICIAL JOURNAL *will appreciate requests for literature*

VERUTAL

VERATRUM VIRIDE
PLUS OTHER ACTIVE INGREDIENTS

RAND

TRIPLE ACTION



Each tablet contains:

Veratrum Viridie	100 mg.
Mannitol Hexanitrate	½ gr.
Rutin	10 mg.
Phenobarbital	¼ gr.

VERUTAL Tablets (RAND) CONTAIN Veratrum VIRIDE plus other ACTIVE AGENTS. NO SINGLE DRUG IS SUFFICIENT FOR THE COMPLETE TREATMENT OF THIS COMPLEX DISEASE

for effective treatment of

HYPERTENSION

Clinical trial package and literature on request

RAND *pharmaceutical co., inc., albany, n. y.*

SAYS CIVIL DEFENSE PLANNING MUST INCLUDE GERM WARFARE

Plans for civil defense in event of war must include the possibility of biologic or germ warfare, a national health director said recently, adding that more knowledge and better equipment are necessary if maximum protection of the population is to be insured in case of such an attack.

Dr. Victor H. Haas of Bethesda, Md., director of the National Microbiological Institute of Health, Public Health Service, Federal Security Agency, discusses biologic warfare in an article in a recent issue of the *Journal of the American Medical Association*. The article was prepared by Dr. Haas at the request of the Council on National Emergency Medical Service of the A.M.A.

"It is possible," Dr. Haas said, "that biologic warfare may never be employed . . . still, plans for defense must take into account all the conceivable capabilities of a potential enemy, including biologic warfare."

Dr. Haas believes that the goal of an enemy who intentionally spreads germs would be to cause incapacitating illness rather than extensive fatalities. This would tax medical, health and economic facilities to a great degree. As an illustration, he cited industrial plants in which effectiveness would fall off sharply if even less than 20 per cent of the employees failed to report for work and the serious handicaps which would result if key individuals died or could not report for work.

"Whatever the direct damage in terms of sickness, death, decreased efficiency and confusion, there would also be a psychological reaction on the part of the attacked population. Fear of the unusual or the unknown has panic potentialities, and this aspect of the problem would require serious consideration; undoubtedly an enemy would make every effort to exploit it."

One of the principal routes which would be used to spread germs, in Dr. Haas' opinion, would be the air, although drinking water, milk and other foods, drugs, cosmetics, money or papers are also possible methods of dissemination. Our physical senses alone would not tell us that germs are present as they would probably be odorless, tasteless and colorless, he said.

None of the present methods of testing water, milk and food products and of sampling air are immediately applicable for detection of biologic warfare agents, Dr. Haas said.

"While these limitations must be faced, they do not justify a policy of inaction or delay. Some of the simpler operations of sampling and identification should be put into effect, and it may be anticipated that experience and research will ultimately overcome many of the initial difficulties, while others can be minimized by efficient organization."

He advised "more knowledge and better equipment . . . to permit development of defense against biologic warfare to the extent that would permit maximum protection of personnel subject to attack."

The nine specific research projects he named as necessary to strengthen our defenses are: (1) development of air sampling devices capable of detecting a wider variety of agents than currently possible; (2) more rapid methods for isolation and identification of disease agents; (3) methods for active immunization after exposure; (4) antigens capable of immunizing against whole classes of organisms rather than individual species or strains; (5) mass immunization procedure which would permit immunization by inhalation of antigens by large numbers of people simultaneously; (6) procedures for sterilization of large air masses; (7) information on optimal dosages of disease agents and on infection rates after exposure to known dosages; (8) measures for arresting infections during the incubation period by adequate yet economical treatment; (9) specific treatment for diseases caused by smaller viruses.

Once an attack has occurred, civil defense must be directed toward minimizing the effects of an attack, he said. "This would include limiting the number of casualties; shortening the period of morbidity; reducing or preventing fatalities, and preventing development of secondary cases."

One of the first steps in control of disease is the ability to recognize its presence. This ability, according to Dr. Haas, "can be developed to a greater state of efficiency than is usually considered necessary for peacetime communicable disease control."

For example, influenza, typhus, Q fever, typhoid and cholera are a few of the germs believed to be possible biologic warfare agents. The doctor, by knowing what constitutes the usual incidence of certain diseases in a particular locality at various seasons, can quickly recognize any unusual illnesses or familiar illnesses occurring in unexpected numbers. Any suspicious circumstances should be immediately investigated to determine whether or not the outbreak occurred as a result of biologic attack.

Absenteeism from schools or certain industries, overloading of hospitals and clinics—evidence of outbreaks of communicable disease in peacetime—should alert authorities that an attack might have taken place.

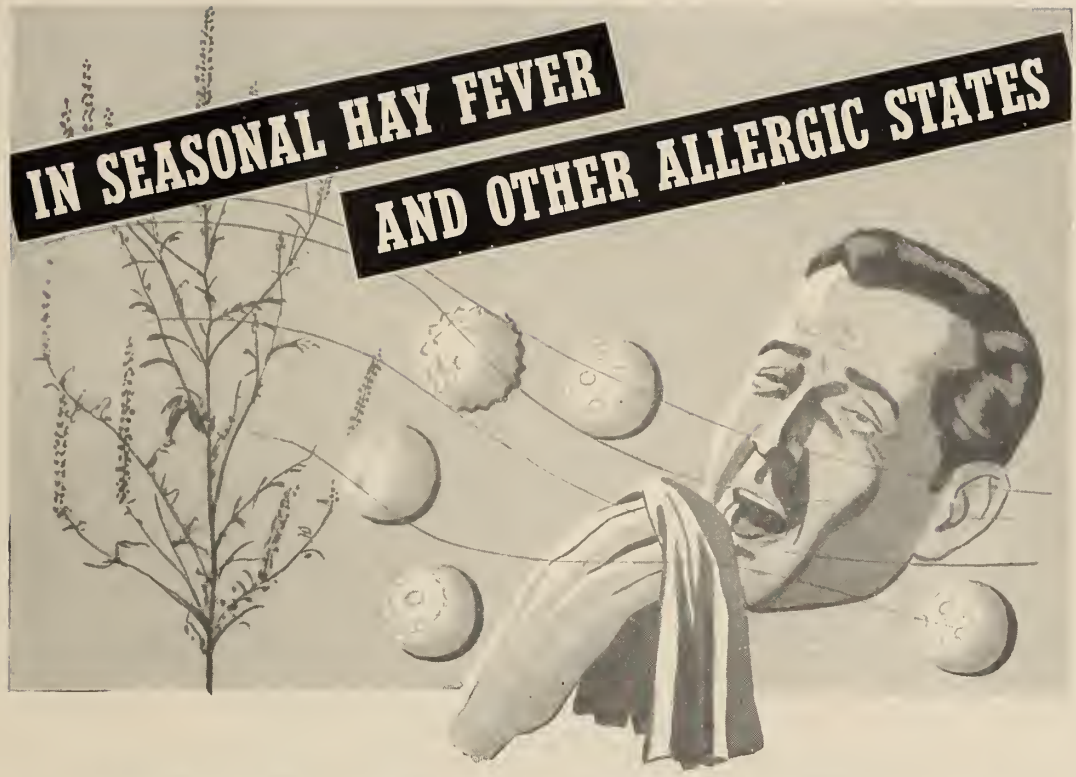
"Adequate preparation in advance and proper reaction after an attack," said Dr. Haas, "will . . . permit limitation of natural outbreaks and . . . may confidently be expected to achieve control over infectious agents deliberately disseminated."

In the same issue of the *Journal of the American Medical Association*, Dr. James C. Sargent, Milwaukee, Wis., chairman of the A.M.A. Council on National Emergency Medical Service, viewed the prodigious role that health and medical professions must play in the civil defense picture as a whole. Dr. Sargent said:

"Civil defense stands alongside military defense as a vital component of our national security. This responsibility for national survival now rests on every citizen. . . .

"It would be impossible to overestimate the importance of the civil defense medical and health services to the nation's survival in this regard. The

(Continued on Page 32)



ANTIHISTAMINE ACTION

with minimum side effects

HISDRIN makes possible full antihistamine effect for prolonged periods, but reduces such complicating side actions as drowsiness or lethargy. Its desirable clinical behavior is due to a rationale combination of a dependable antihistamine agent and a sympathomimetic drug which exerts a stimulating action on the central nervous system.

In patients who develop drowsiness upon taking an antihistamine agent, the mild cerebral stimulation afforded by Hisdrin aids in overcoming this tendency and allows full mental and physical activity.

Hisdrin is indicated in the symptomatic control of all allergic states in which antihistamines are of value: seasonal hay fever, allergic dermatitis, drug reactions, and many types of pruritus.

FORMULA

Each Hisdrin tablet contains:
Semikon hydrochloride
(Methapyrilene hydrochloride) 50 mg.
Semoxydrine hydrochloride
(d-Desoxyephedrine
hydrochloride)..... 2.5 mg.
It is available on prescription
through all pharmacies.

SE CO

THE S. E. MASSENGILL COMPANY
Bristol, Tenn.-Va.
NEW YORK • SAN FRANCISCO • KANSAS CITY

HISDRIN

SAYS CIVIL DEFENSE PLANNING MUST INCLUDE GERM WARFARE

(Continued from Page 28)

sick must be cared for; enormous numbers of casualties must be treated, and all must be protected from the communicable diseases that could accompany the disruption of normal public health and sanitary safeguards. . . .

"Plans must be made in peacetime, since the opportunity for careful preparation and organization is irrevocably lost during the confusion and urgency that is attendant on war. All trained health personnel, including dentists, nurses, veterinarians, pharmacists, sanitary engineers, technicians of all types, as well as physicians, must participate and must cooperate wholeheartedly and unselfishly with each other and with those in authority. . . .

"There are numerous responsibilities that devolve on the members of the health professions because of the possibilities inherent in the enemy's use of the newer weapons of warfare. The detection of atomic, biologic or chemical warfare agents, as well as the treatment of casualties from their effects, entails specialized knowledge and facilities that should be supervised, for the most part, by the health professions. . . .

"The people of this nation must learn to live with rather than in fear of the atomic bomb, for its threat will remain with them for a considerable time to come. The public must be educated with respect to the true potentials and limitations of atomic warfare. Never before has there existed a weapon that permits such an opportunity for exploiting the people's fear of the unknown. The same might be said of biologic and chemical warfare. This is not intended to disparage the effects of these weapons, for their use could cause untold thousands of casualties. But there is nothing new or mysterious in the effects of these weapons. . . .

"The problem that confronts the health professions lies not in any lack of knowledge concerning these agents but in the lack of suitable plans and programs for handling large numbers of casualties from them."

New 2-Way Aid in ACNE

Now hide and treat acne blemishes simultaneously with new AR-EX R.M.S. Lotion. Complexion tinted. Contains resorcinol monoacetate and sulphur in gentle AR-EX Foundation Lotion. Non-astringent.

AR-EX R.M.S. Lotion

AR-EX COSMETICS, INC., 1036 W. Van Buren St., Chicago 7, Ill.

Send for Free Sample.

New LEVERAGE FOR CONTROL

of Certain Heart and Respiratory Disorders

Dorsaphyllin now affords the therapeutic action of theophylline, *buffered by sodium glycinate to reduce gastric irritation.* With gastric acidity thus neutralized and precipitation of theophylline in the stomach prevented, the buffered drug is well tolerated in larger doses. In addition, having neither enteric nor sugar coating, Dorsaphyllin tablets disintegrate rapidly in the stomach and absorption begins immediately. By permitting the physician a freer hand in determining dosage, and by removing the obstacle to prompt therapeutic response, Dorsaphyllin brand of theophylline-sodium glycinate is providing new leverage in the management of such disorders as congestive heart failure, Cheyne-Stokes respiration, bronchial asthma, and status asthmaticus.

Tablets • Elixir • Suppositories
For children, palatable Elixir Dorsaphyllin is acceptable and well tolerated. For the hypersensitive, Dorsaphyllin Suppositories are available.

From The Literature

- Bubert and Cook, Bulletin of School of Medicine, Univ. of Maryland, Vol. 32, pp. 175-190, 1948.
- Paul and Montgomery, J. Iowa State Med. Soc., June, 1948.
- Krantz, Holbert, Iwamoto and Carr, J.A.Ph.A., Vol. 36, pp. 248-250, 1947.
- New and Non-official Remedies, 1950, p. 285.

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

dorsaphyllin

BRAND OF THEOPHYLLINE-SODIUM GLYCINATE

THE SMITH-DORSEY COMPANY
• LINCOLN, NEBRASKA •
LOS ANGELES • DALLAS • MEMPHIS

AUREOMYCIN, CHLORAMPHENICOL EFFECTIVE IN MIXED BACTERIAL INFECTIONS

Two Cincinnati physicians report that aureomycin and chloramphenicol—two of the most promising of the newer antibiotics—have brought good results in their treatment of a large number of mixed bacterial infections.

"The results of treatment [on 233 patients] with either of these antibiotics and the indicated surgical procedure were good in a majority of instances, the invasive qualities of the infection being quickly overcome and the local manifestations of the infection disappearing at varying rates," write Doctors William A. Altemeier and William R. Culbertson in a recent issue of the *Journal of the American Medical Association.*

The doctors are associated with the University of Cincinnati College of Medicine and Cincinnati General Hospital. They explained that lesions produced by mixtures of bacteria are especially resistant to chemotherapy and other forms of treatment because of the cooperative action of the infecting bacteria and their tendency to kill tissue and produce extensive abscesses in the abdominal and lung cavities, marked poisoning and progressive spread of the infection. Up to now, treatment of such infections has not been too successful, they said.

In a small number of cases, bacterial resistance to the drugs was noted, the doctors reported, citing 14 cases of resistance among the 179 patients treated with aureomycin and eight cases among the 54 patients who were given chloramphenicol. However, they added:

"There were indications that the efficacy of aureomycin or chloramphenicol in the type of infection in which some of the infecting bacteria were resistant could be increased by the concomitant use of other chemotherapeutic agents to which the organisms were susceptible in vitro."

The doctors reported little evidence of toxicity in the patients as a result of the drugs.

Buy U.S. Savings Bonds

COLLECTIONS—with dignity and the utmost efficiency, recognized and recommended to the profession for over twenty years.

Seven Eighty-five Market Street San Francisco EXbrook 2-1670

"Representing Doctors of California by the Hundreds"

PROCREDIT COMPANY

Professional Finance & Credit Service "ASK ANY DOCTOR"

Represented by bonded agents throughout the United States

NUMOROIDAL SUPPOSITORIES

Soothing the Hemorrhoidal Area ... Analgesic, vasoconstrictive medication in contact with the entire hemorrhoidal zone is provided in Numoroidal Suppositories. The special emulsifying base mixes with the secretions to assure coverage of the rectal area.

Convenient: Individually packed. No refrigeration necessary.

Formula: ephedrine hydrochloride 0.22%; benzocaine 5.00%, in a special emulsifying base. Average weight of 1 suppository—1.8 Gm.

Boxes of 12

NUMOTIZINE, Inc., 900 North Franklin Street, Chicago 10, Illinois

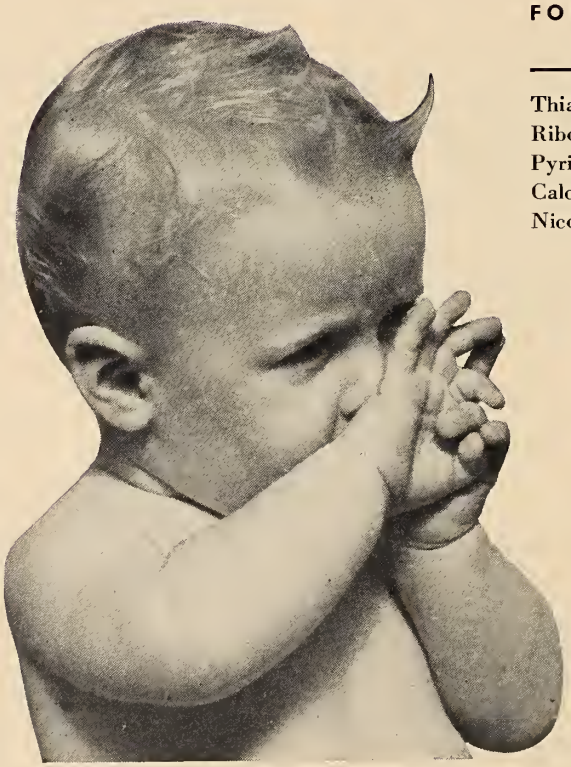
WHEN SMALL APPETITES NEED STIMULATION

To establish a more consistent weight gain, to prevent or correct anorexia, to reduce the inclination to infection—White's Multi-Beta Liquid provides:

1. generous amounts of the B complex vitamins in small dosage volume
2. a notably stable, non-alcoholic, pleasant tasting liquid
3. an excellent prescription ingredient—for infant or adult. Compatible in equal parts with Tincture Nux Vomica; in 1 to 4 parts of Elixir Phenobarbital; in 1 to 8 parts of White's Mol-Iron Liquid.

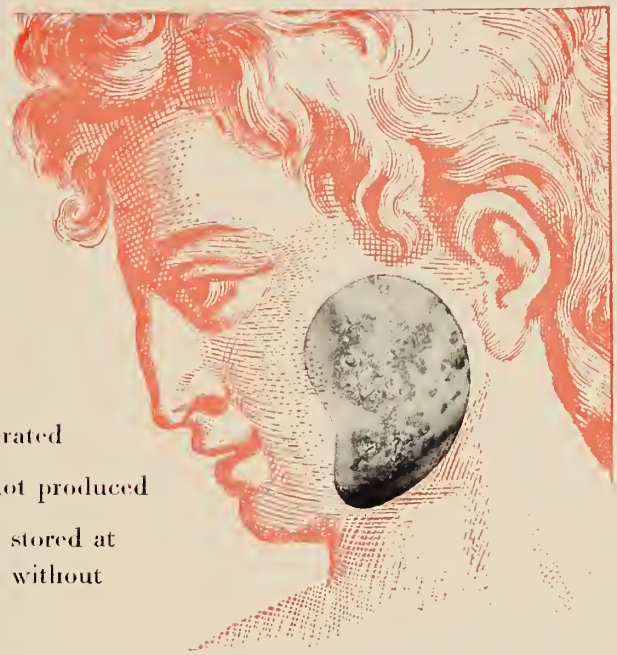
White's **MULTI-BETA® LIQUID**

multi-purpose B complex source



FORMULA:	each cc. (approx. 20 drops) contains:	each teaspoonful (4 cc.) contains:
Thiamine Hydrochloride	2.5 mg.	10.0 mg.
Riboflavin	0.5 mg.	2.0 mg.
Pyridoxine Hydrochloride	0.15 mg.	0.6 mg.
Calcium Pantothenate	0.2 mg.	0.8 mg.
Nicotinamide	10.0 mg.	40.0 mg.

WHITE LABORATORIES, INC.
Pharmaceutical Manufacturers,
Newark 7, N. J.



Topical therapy . . .
effective and safe
for continued use

- because Terramycin is well tolerated
- because bacterial resistance is not produced
- because the medication may be stored at room temperature for 12 months without significant loss of potency

CRYSTALLINE
Terramycin
HYDROCHLORIDE

for topical use only **OINTMENT**

An ointment of Crystalline Terramycin Hydrochloride in a petrolatum base. Each Gm. of ointment provides 30 mg. of Terramycin.

indicated for:
superficial pyogenic infections
pyoderma
pustular dermatitis
minor wound infections
infections associated with minor burns
prophylaxis

particularly valuable in mixed infections

In severe local infections which may become systemic, the ointment should be used as an adjunct to oral therapy with Crystalline Terramycin Hydrochloride Capsules.

supplied: Tubes containing 1 oz. (28.4 Gm.)

Antibiotic Division Pfizer CHAS. PFIZER & CO., INC. *Brooklyn 6, New York*

Head Pain as a Diagnostic Aid

Frequently the presence of head pain is overlooked. The physician learns of it only if he has made an effort to elicit the information. Etiology is the key to rational management. The patient should be warned against taking medication before diagnosis.

Friedman deplores the regrettable tendency to call any chronic recurring headache migraine. Thoroughgoing history-taking and full physical and neurological examination are essential for accurate diagnosis. The following chart gives briefly the primary diagnostic leads and therapy for some common types of headaches.

Etiology of Headache	Primary Diagnostic Data	Primary Therapy
Inflammatory e.g., Meningitis Abscess	Inflammation of intracranial structures; fever; leucocytosis; bacteriologic diag.	Specific: sulfonamides and antibiotics. Symptomatic: analgesics.
Tumor	Pain varies as spinal press. changes; skull X-ray.	Specific: surgery. Symptomatic, analgesics, &/or hypnotics.
Sinusitis	Sinus congestion and infection; cloudy X-ray.	Specific: antibiotics and drainage. Symptomatic: analgesics.
Hypertensive	Hypertension present but pain not related to b.p. level; Dihydroergotamine. relieves pain.	General hypertension therapy; sedation. Symptomatic: analgesics.
Migraine & other vascular headaches	Headache: recurrent, intense, throbbing. No organic causation; migraine in family; patient: energetic, perfectionist. Visual prodromata; g-i. upset during headache.	To abort attack: oral ergotamine plus caffeine — Cafergot (dosage given below) General: adjustment to minimize nervous stress.

Data tabulated is from: Wolf, G. Jr.: Pennsylvania M. J. 54: 25, 1951. Friedman, A. P., in Conn, H. T.: Current Therapy, 1950, Phila., Saunders Co., 1950, p. 563.

Acute Migraine Attack Therapy: Numerous clinical studies have reported effective oral treatment with Cafergot® tablets (ergotamine tartrate 1 mg. plus caffeine 100 mg.). Reeves says Cafergot affords ". . . predictable response, economy, flexibility, oral administration and absence of notable side effects." Proper dosage procedure is important. Failures in true migraine result from inadequate or delayed dosage.

Dosage; two tabs. at onset of attack and, if necessary 1 tab. every ½ hr. till full relief (limit: 6 tabs.).

DOSAGE INSTRUCTION SLIPS for the patient, available on request, write to:

Sandoz Pharmaceuticals

DIVISION OF SANDOZ CHEMICAL WORKS, INC.
68 CHARLTON STREET, NEW YORK 14, N. Y.

NEW BLOOD VESSEL BANK PRESERVES GRAFTS FOR SURGERY

Doctors have established a new type of "bank" which collects and preserves human blood vessels.

The first such bank has been established at New York Hospital, Cornell Medical Center and Bellevue Hospital, part of the New York University-Bellevue Medical Center.

Desirability of such a bank became apparent with the development of new techniques in cardiovascular surgery in which normal blood vessel grafts from deceased persons are transplanted to patients with diseased or abnormal vessels.

The use of blood vessel grafts is already well recognized in surgical treatment of patients suffering from constriction of the main artery of the heart; malignant conditions necessitating the sacrifice of a vital blood vessel, and aneurysms, a dilation of the walls of an artery resulting in the formation of a blood-filled sac.

The blood vessel bank, its function and its contribution to cardiovascular surgery are described by a group of New York surgeons in a recent issue of the *Journal of the American Medical Association.* The surgeons are Drs. Edward B. C. Keefer, William DeW. Andrus, Frank Glenn, George H. Humphreys II, Jere W. Lord, Jr., Wallace B. Murphy, and Arthur S. Touroff.

Dr. Robert E. Gross of Boston is believed to be the first to successfully use blood vessel grafts as early as 1948. He preserved sections of vessels for future use but on a small scale.

The New York bank, on the other hand, draws its supply from all available New York hospitals. It was established in July 1949.

A large number of hospitals are necessary to provide donor material in sufficient quantity for such a bank, the doctors said. They explained there is nearly always difficulty in obtaining permission for autopsy and, in addition, only a small number of the autopsies actually performed provide suitable donor material. For example, from May 14, 1949, to May 14, 1950, there were only 28 autopsies from which usable donor grafts could be taken, or 6.2 per cent of all the autopsies done.

It is also desirable to have a choice of different sized grafts because of the individual variations in the calibre of the vessels and, despite the shortage of material, a central storage depot makes this choice possible.

A constant race against time exists in maintaining an adequate supply of donor material, they said. A graft must be taken as soon as possible, preferably not later than six hours after death of the donor. This demands fast action by the house staff in obtaining permission for complete autopsy and clearing the permit through the hospital administration. The shortness of storage time of the grafts (from four to six weeks) also means the supply must be constantly replenished.

For these reasons, the authors believe, more than one blood vessel bank in a city—even a city the size of New York—would be impractical.

Preferred blood vessel donors are those under 45. The graft is usually a section of the aorta. The

(Continued on Page 46)

Future "Muscle Man"

Proteins are "muscle builders" that promote rapid growth and good tissue turgor. With HI-PRO, you can increase protein intake to high levels—yet keep the fat intake *low*. The HIGH PROTEIN-LOW FAT content provides a full quota of calories without danger of fat irritation in infants whose fat tolerance is low, or for those infants in which digestive disturbances are present.

HI-PRO is a palatable, readily digestible basic milk food prepared by blending spray-dried cow's milk and partially delactosed skim milk. Readily usable in infant formulae or mixed with other foods for the older child or adult.

HI-PRO Approx. Analysis

Protein	41.0%
Fat	14.0
Lactose	35.0
Minerals	6.5
Moisture	3.0
Calcium (Ca)	1.15
Phosphorus (P)	1.65
Potassium (K)	1.17
Calories per oz. (3 tbsp.)	121
Calories per tbsp.	40
Protein per oz.	11.7 grams
Protein per tbsp.	3.9 grams

ANOTHER FINE J. M. PRODUCT
MEYENBERG EVAPORATED GOAT MILK

For Samples and Literature Write:

Jackson-Mitchell Pharmaceuticals, Inc.
formerly SPECIAL MILK PRODUCTS, Inc.
LOS ANGELES 64, CALIFORNIA • SINCE 1934

SIX-POINT PROGRAM IN FIGHT AGAINST TUBERCULOSIS OUTLINED

(Continued from Page 18)

active tuberculosis. The important thing in control is to prevent drops of sputum or dust containing the germs from reaching others."

He said tuberculosis is likeliest to develop when bodily defenses are temporarily weakened by fatigue or stress. He urged extra rest and sleep after recovery from a cold or other infection. Other recommendations were a well-balanced diet, plenty of water, cleanliness, fresh air, outdoor exercise and sunshine. Periodical chest x-rays, he said, will reveal tuberculosis in its early stage when early cure is possible.

STUDY INDICATES MANY WARTIME REJECTEES COULD HAVE SERVED

(Continued from Page 22)

at local board level, a registrant's successes and failures, as he has reacted to civil life, and unless he is definitely psychotic or psychoneurotic to such an extent that he has not been able to adjust to civil life he should be inducted.

"Within the armed forces a determination may be made, under observation, regarding his usefulness. If it is determined that he cannot be used profitably, he should be discharged with no obligation to the government because of so-called possible aggravation."

PARK SANITARIUM

A proprietary institution for the care and treatment of alcoholic, addiction, and mental patients.

SINCE 1912

1500 PAGE STREET
SAN FRANCISCO 17

Telephone
MArket 1-4343

Reminder for arthritis cases!

The SAFE gold preparation AUROL-SULFIDE, 2% parenteral gold sulfide, is now available for physicians in any quantity desired, in 15, 30, and 60 cc. vials. Literature available. Please order direct or through your pharmacist.

6007 N. LINCOLN AVE.
HILLE LABORATORIES, Chicago 45

IN ATHEROSCLEROSIS

a more favorable prognosis usually follows the use of . . .

LIPO-B

an orally effective lipotropic compound

FORMULA: Six tablets daily provide—

Choline Dihydrogen Citrote	1,800 mg.
Inositol	900 mg.
Pyridoxine HCl	12 mg.
Niocinomide	120 mg.
Riboflovin	24 mg.
Thiomine HCl	12 mg.
Colcium Pantothenote	12 mg.

DOSAGE: Two to six toblets daily.

SUPPLIED: Bottles of 100 ond 1,000 specially coated toblets.

Literoture ond Somples on Request

Indicated in the management of EXCESSIVE BLOOD CHOLESTEROL

UNITED LABORATORIES, LTD.

PASADENA • Established 1917 • CALIFORNIA

WATER—
DISPERSIBLE A&D
PALATABLE
VIFORT
EFFECTIVE FOR YOUNG AND OLD
8 VITAMINS IN ONE PRODUCT
Each 0.6 cc. contains:
Vitamin A 5,000 U.S.P. Units
Vitamin D 1,200 U.S.P. Units
Thiamine Hydrochloride 1.8 mg.
Riboflavin 0.4 mg.
Pyridoxine Hydrochloride 0.3 mg.
Ascorbic Acid 60 mg.
Niacinamide 6 mg.
Pantothenic Acid 1.2 mg.
Supplied in 15 and 30 cc. Dropper Bottles.
Samples sent on request.
VIFORT®
polyvitamin drops
Endo
ENDO PRODUCTS INC. · RICHMOND HILL 18, NEW YORK

NEW BLOOD VESSEL BANK PRESERVES GRAFTS FOR SURGERY

(Continued from Page 38)

aorta is the main arterial trunk which supplies blood from the heart to the body. The size of the aorta near the heart can be compared to a thumb. It gradually diminishes in size as it gets farther away from the heart. If possible, long sections of the vessel are taken. The graft can then be trimmed to suitable size when it is used.

At the time of autopsy a small piece of the prospective graft is set aside for tissue culture and careful examination. If the examination reveals any alteration from the normal standard, the graft is discarded. Another tissue culture is performed on the vessel just before it is used.

At the New York bank, the graft is kept in a nutrient solution under refrigeration. Another method of storage by deep freeze was also discussed in the article. Each method has certain advantages but neither has been proved sufficiently superior to be the procedure of choice. Research is being carried on to improve storage, thus lengthening its maximum time limit past the 4 to 6 weeks' mark.

"Establishment of blood vessel banks now seems desirable in large cities where cardiovascular surgery is performed," they said.

Anti-Pyrexol

Active ingredients: Oils of spearmint, bay, wintergreen (syn.), salicylic acid, lanolin, zinc oxide, phenol (0.44%) ortho-hydroxyphenylmercuric chloride (.56%)—petrolatum, paraffine. Physicians in increasing numbers are using Anti-Pyrexol in the treatment of denuded and painful skin lesions—for burns, scalds, incised or lacerated wounds, surface irritations and local inflamed conditions of the skin and mucous membrane. An antiseptic ointment that combats toxemia. Anti-Pyrexol reduces pain, promotes healing, minimizes scarring. In 2 oz. tubes, and 1, 5, 10 and 50-lb. tins at your surgical supply house or jobber. Imitated—so ask for easy spreading Anti-Pyrexol.

ANTI-PYREXOL BLAND Same as Anti-Pyrexol except that Ortho-Hydroxy phenylmercuric chloride is omitted—suggested in treatment where chances of infection are lacking. Packed as Anti-Pyrexol.

ANTI-PYREXOL BENZOCAINE Represents Anti-Pyrexol plus Benzocaine 3%. Acutely anesthetic. Packed in 2-oz. Tubes and in 1, 5 and 10-lb. tins. *NOT ADVERTISED TO THE LAITY*

KIP CORP., Ltd. LOS ANGELES 21

COMPTON SANITARIUM

820 West Compton Blvd. Compton, Californio
NEvado 6-1185

High Standards of Psychiatric Treatment

Las Campanas Hospital
under same Medical Direction

Approved by American College of Surgeons

Philip J. Cunnane, M.D.
Director

G. Creswell Burns, M.D.
Medical Director
Helen Rislow Burns, M.D.
Assistant Medical Director

Established in 1915

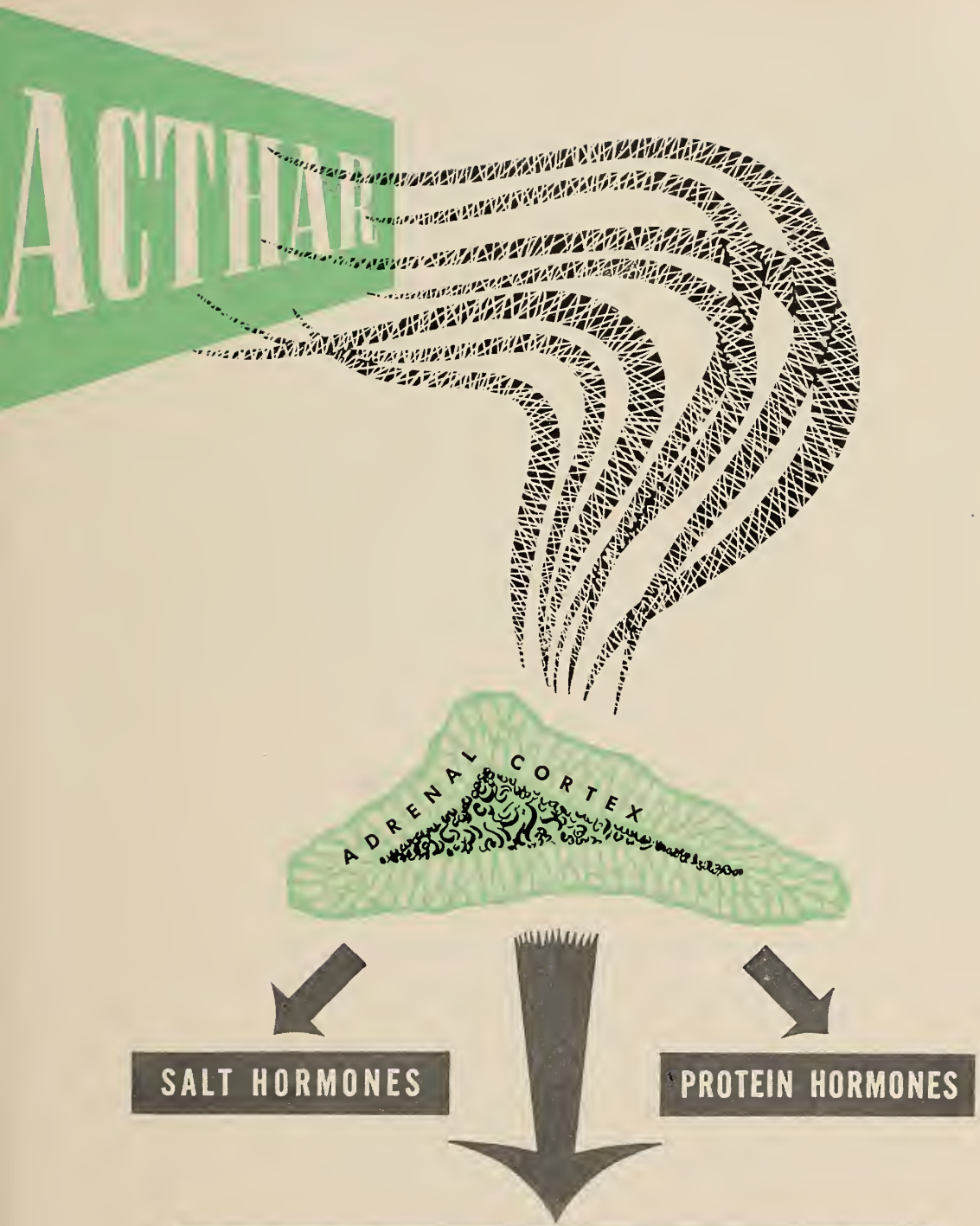
Octin - *for Relief of Smooth Muscle Spasm*

Octin is an antispasmodic, indicated for the treatment of spastic conditions of the genito-urinary, gastrointestinal and biliary tracts.

DOSE: Oral, 1 Octin tablet (2 grains) or 20 drops of the Oral Solution, every three to five hours. Injection, intramuscularly 1 cc. (1½ grains) every three to four hours.

Octin, methylisooctenylamine, Trade Mark Bilhuber.

Bilhuber-Knoll Corp. Orange, N. J.



COMPOUND F HORMONES

Physiologic agents that control the mobilization and utilization of energy; regulate retention of sodium and chloride and the excretion of potassium; prevent breakdown of body protein. They inhibit cellular injury and the concurrent inflammatory reaction common in a wide variety of diseases.

COOK COUNTY

Graduate School of Medicine

ANNOUNCES CONTINUOUS COURSES

SURGERY—Intensive Course in Surgical Technic, Two Weeks, starting May 14, June 4, June 18.
Surgical Technic, Surgical Anatomy & Clinical Surgery, Four Weeks, starting June 4, July 9, August 6.
Surgical Anatomy & Clinical Surgery, Two Weeks, starting May 14, June 18, July 23.
Surgery of Colon & Rectum, One Week, starting June 4, September 17.
Esophageal Surgery, One Week, starting June 4.
Thoracic Surgery, One Week, starting June 11.
Gallbladder Surgery, Ten Hours, starting June 18.
Breast & Thyroid Surgery, One Week, starting June 25.
Fractures & Traumatic Surgery, Two Weeks, starting June 18.

GYNECOLOGY—Intensive Course, Two Weeks, starting June 18, September 24.
Vaginal Approach to Pelvic Surgery, One Week, starting June 11, September 17.

OBSTETRICS—Intensive Course, Two Weeks, starting June 4, September 10.

MEDICINE—Intensive General Course, Two Weeks, starting October 1.
Gastroenterology, Two Weeks, starting October 15.
Gastroscopy, Two Weeks, starting July 16.
Electrocardiography & Heart Disease, Two Weeks, starting July 16.
Liver & Biliary Diseases, One Week, starting June 4.

PEDIATRICS—Cerebral Palsy, Two Weeks, starting July 9.
One Year Full Time Clinical Course starting July 2.

GENERAL, INTENSIVE AND SPECIAL COURSES IN ALL BRANCHES OF MEDICINE, SURGERY AND THE SPECIALTIES

TEACHING FACULTY—ATTENDING STAFF OF COOK COUNTY HOSPITAL

Address: REGISTRAR, 427 South Honore Street
Chicago 12, Illinois

Southern Sierras Sanatorium

• for Tuberculosis and Allied Affections

BANNING, CALIFORNIA

Unsurpassed year-round climate

Near but not upon the desert

Absence of extremes • Altitude 2350 feet

Freedom from Smog

90 miles east of Los Angeles on
Highways 99, 60 and 70

Sustained reputation for
service and satisfaction

C. E. ATKINSON, M.D. . . *Medical Director*

REPORT RESUSCITATION METHODS REDUCE NEWBORN DEATH RATE

A notable decrease in the number of stillbirths and newborn deaths in a Toronto, Ontario, hospital over a period of three years is attributed in part, by two University of Toronto obstetricians, to effective methods of resuscitation of babies who are slow to begin breathing.

Writing in a recent issue of the *Journal of the American Medical Association*, Doctors John P. Fletcher and Joslyn W. Rogers report that the stillbirth and neonatal death rate in a series of 2,531 deliveries at the Toronto General Hospital has "steadily fallen" and that resuscitation efforts have played a "considerable part" in this improvement. Since 1947 the number of successful resuscitations has almost doubled.

In their article, the doctors described the hypoxic condition which occurs in every newborn infant during or immediately after birth. This lack of oxygen, they said, is produced either by mucous materials and other obstructions in the air passage or by restricted lung expansion.

In this reported series of 2,531 deliveries, a routine clearing of the mouth and throat was performed in all cases immediately after birth as the child is helpless until these are cleared, they said. (This is a routine procedure in most delivery rooms.)

If respiration failed to assume a normal pattern within two minutes, they continued, a simple apparatus was used both to clear the airway to the lungs by means of suction and to furnish the infant with oxygen.

According to the doctors, after a child with a normally beating heart is born, there are usually five to eight minutes in which to provide the tissues and organs with an adequate amount of oxygen if a normal child is to result.

They explained the importance of getting a child to breathe as quickly as possible by pointing out that if the infant fails in his initial respiratory efforts, the subsequent lack of oxygen may result in depression of the respiratory center in the brain. Lack of oxygen is thus aggravated further by failure of the infant in attempts to breathe. This creates a vicious cycle which, if not checked, leads to death, they said.

They added that the central nervous system is likewise highly vulnerable to lack of oxygen and that severe hypoxia for eight minutes may result in permanent damage to vital centers in the brain. A type of epilepsy or mental deficiency, they said, may occur in infants surviving severe lack of oxygen at birth.

The doctors were of the opinion that it is possible to "prevent, control or at least be prepared for hypoxia in the newborn."

The preventive treatment they suggested included minimal sedation and anesthetics during labor and the provision of oxygen to the mother when fetal distress is present or anticipated.

The apparatus used in the Toronto General Hospital to induce breathing in especially hypoxic infants was described by the doctors as both safe and

(Continued on Page 62)

LUBRICOID ACTION

without oil

IN CONSTIPATION MANAGEMENT

TURICUM

TRADE MARK

HYDROPHILIC LUBRICOID

—presents methylcellulose as a gel, to which magnesium hydroxide is added in less than laxative dosage to assure continued hydration of the gel throughout the intestinal tract.

In maintaining an osmotic equilibrium, the magnesium ion attracts and retains adequate water to keep the methylcellulose in the form of a soft gel—providing a distinctive efficient *lubricoid* action which promotes gentle elimination.

Each tablespoonful of Turicum contains:

METHYLCELLULOSE	0.3 Gm.
MAGNESIUM HYDROXIDE	0.6 Gm.

The Turicum formula assures:

- *lubricous bulk to encourage normal evacuation*
- *good distribution throughout the bowel*
- *no bloating*
- *no danger of impaction*
- *no interference with utilization of oil-soluble vitamins*
- *no danger of lipid pneumonia*
- *no leakage*

Turicum is available in one pint bottles.

Whittier LABORATORIES

DIVISION NUTRITION RESEARCH LABORATORIES, INC.,
CHICAGO 11, ILLINOIS

DEFERMENT FOR MEDICAL STUDENTS URGED BY MANPOWER STUDY COMMITTEE

Statement of Dr. Stockton Kimball, chairman, Joint Committee on Medical Education in Time of National Emergency. Filed with House Armed Services Committee in regard to H.R. 2811 (War Manpower Bill).

The Joint Committee on Medical Education in Time of National Emergency, in cooperation with representatives of the Surgeons General of the branches of the Armed Forces and of the Public Health Service, the Selective Service System, the Veterans Administration, and the National Security Resources Board, has for the past six months been studying and has reported to the N.S.R.B. means for meeting the needs of the country for doctors in an acute and prolonged emergency through the thorough training of as large a number of well selected physicians as possible. The Joint Committee came into being as the result of studies which each organization has been making since the last war. The Committee has full confidence that thus a number of marked deficiencies in the training and utilization of doctors during World War II will be avoided in the present emergency. It has prepared a statement for the N.S.R.B. which is attached to the present testimony.

On the basis of this study the Joint Committee is desirous of registering approval of H.R. 2811 as contrasted with H.R. 1752 and S.1 and S.1 amended.

The Joint Committee is especially pleased by the omission from H.R. 2811 of the provision for the temporary deferment for study or research of 75,000 students annually upon completion of an initial four to six months basic training, which was included in sub-section d, section 6, page 9 of H.R. 1752. We commend strongly the inclusion instead of the new amendment to sub-section h, section 6, which on pages 14-15 of H.R. 2811 states as follows:

"The President is authorized, under such rules and regulations as he may prescribe, to provide for the deferment from training and service in the Armed Forces, or from training in the National Security Training Corps of any or all categories of persons—whose activity in study, research, or medical, scientific or other endeavors is found to be necessary to the maintenance of the national health, safety, or interest: Provided, That no person within any such category shall be deferred except upon the basis of his individual status: Provided further, That persons who are or may be deferred under the provisions of this section because of their activity as students, shall remain liable for training and service in the Armed Forces or for training in the National Security Training Corps under the provisions of section 4-(d) of this Act until the thirty-fifth anniversary of the date of their birth."

Inclusion in H.R. 2811 of the above new wording of sub-section h, section 6, to permit the President to authorize deferment of students for study and later military service has the following advantages over sub-section d, section 6 in H.R. 1752:

1. If activated, it will avoid a period of double duty for students of medicine and other professions. H.R. 1752 provided that the temporary deferment of 75,000 students annually should be operative only until June 30, 1954—a three-year period. After 1954 all men reaching the age of 18 would serve on active training and service in the armed forces for a period of 27 consecutive months, in which would be included, at the beginning, a four months period of basic training. After this period of military service, students would then be able to go to college, subsequently to medical school. After graduation from medical school, it appears altogether probable that the requirements of the armed forces of this country would necessitate a second period of service, this time as physicians, for all physically qualified medical school graduates. The same would apply for dentists, engineers and other professionals. This kind of selective obligation to double duty of certain groups of society, as contrasted with the rest of the age group, is undemocratic, wasteful, and would probably tend to discourage people from entering the study of medicine and other professions.

2. It will avoid limitation of deferment to a specified number, 75,000, which in practice might well work out to be in insufficient number. The Joint Committee is on record as recommending deferment of a pool of college students of high general competence for each year, from which would be selected medical students, dental students, physics students, engineers, linguistic and cultural experts, etc. We recommend the procedure reported by the six Scientific Advisory Committees—the Trytten Report to the National Director of Selective Service System, dated December 1, 1950, in which it is recommended that a student whose aptitude is such that it is deemed necessary that his preprofessional or professional training be continued in order to increase his potential value to the national health, safety or interest, be placed in a classification or category that will permit him to continue his education. We believe that a student qualifying for such classification should be so classified before or at the time he reaches the age for induction and that his basic military training and service be postponed until his specialized education is complete, or until he ceases to pursue his education satisfactorily. This procedure would be in accordance with subsection h, section 6 of H.R. 2811.

In the plan suggested by the six Scientific Advisory Committees, the scores on classification tests and the level of past achievement used as the basis for this classification could be readjusted periodically to provide for a larger or smaller pool of students, depending on the nation's need for manpower in various categories. The advantage of such a plan is that the selection of students remains in the hands of those most fitted to exercise these functions—the colleges and the universities themselves. Similarly the selection of medical students should remain in the hands of the medical schools. It was clearly demonstrated in World War II that selection of medical students by representatives of the armed forces, rather than by the individual medical schools, led to the selection into medical school of many less well qualified students.

(Continued in Back Advertising Section, Page 66)

Angioneurotic edema in January or vernal conjunctivitis in June brings patients to you seeking relief from their symptoms. BENADRYL is often the answer for many of these patients, regardless of the exciting allergen or of the shock tissue.

Hundreds of clinical reports have shown the value of BENADRYL in acute and chronic urticaria, vasomotor rhinitis, hay fever, contact dermatitis, erythema multiforme, pruritic dermatoses, dermographism, drug sensitization, penicillin reactions, serum sickness, and food allergy.

To facilitate individualized dosage and flexibility of administration, BENADRYL Hydrochloride (diphenhydramine hydrochloride, Parke-Davis) is available in a variety of forms—including Kapseals,® 50 mg. each; Capsules, 25 mg. each; Elixir, 10 mg. per teaspoonful; and Steri-Vials,® 10 mg. per cc. for parenteral therapy.

REPORT RESUSCITATION METHODS REDUCE NEWBORN DEATH RATE

(Continued from Page 50)

simple. They pointed out that the usual automatic resuscitators, inhalators and other mechanical devices are not suitable for use in the delivery room as it is "obviously dangerous to impose an artificial and capricious respiratory cycle on an infant's undeveloped pattern."

The apparatus consists of two tubes, one contained within the other, and a regulated supply of oxygen. The procedure is to place the infant—wrapped loosely in a warm sterile blanket—on his back on a table with his head supported over the edge of the table so that his neck is arched. The tubes are inserted into the throat and suction applied to all areas above the vocal cords to remove alien material and, at the same time, supply oxygen. The inner tube is removed and cleared by dipping it in sterile water and then reinserting it until all necessary matter is removed.

Often this is all that is required to produce adequate respiration, good color and good tone in the infant, the doctors said. If this is not effective, suction of lower areas is begun immediately. When respiratory movements become vigorous, the tube is removed from the windpipe and the baby placed in an incubator and kept under close observation for the next six hours.

Located 22 miles south of San Francisco. Accessible to transportation.

Belmont, Calif.

LYtell 3-0054 . . . . . Est. 1925

Twin Pines

NEUROPSYCHIATRIC SANITARIUM

In-patient services for acute and chronic emotional illnesses

Electric shock — Insulin shock
Hydrotherapy — Psychatherapy
Occupatianal therapy

Out-patient services for selective cases

Open Visiting and Consulting Staff

Attending Staff:
A. T. VORIS, M.D., Medicol Director
T. H. BOONE, M.D. • ROBERT E. JAMES, M.D.

ACCIDENT · HOSPITAL · SICKNESS

INSURANCE

FOR PHYSICIANS, SURGEONS, DENTISTS EXCLUSIVELY

ALL PREMIUMS COME FROM — PHYSICIANS SURGEONS DENTISTS — ALL CLAIMS GO TO

$ 5,000.00 accidental death	$ 8.00
$25.00 weekly indemnity, accident and sickness Quarterly	
$10,000.00 accidental death	$16.00
$50.00 weekly indemnity, accident and sickness Quarterly	
$15,000.00 accidental death	$24.00
$75.00 weekly indemnity, accident and sickness Quarterly	
$20,000.00 accidental death	$32.00
$100.00 weekly indemnity, accident and sickness Quarterly	

Cost has never exceeded amounts shown

ALSO HOSPITAL EXPENSE FOR MEMBERS' WIVES AND CHILDREN

85c out of each $1.00 gross income used for members' benefits

$4,000,000.00 *Invested Assets*

$17,000,000.00 *Paid for Claims*

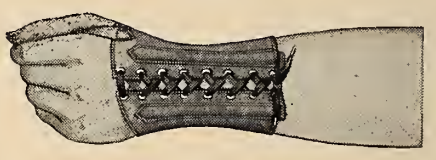
$200,000.00 depasited with State of Nebraska for protection of our members

Disability need not be incurred in line of duty—benefits from the beginning day of disability

PHYSICIANS CASUALTY ASSOCIATION
PHYSICIANS HEALTH ASSOCIATION

49 years under the same management

400 First National Bank Bldg., Omoho 2, Nebraska



Fitted Leather Wristlet . . .

that extends partially onto the hand and has a thumb strap to hold it in position. Reinforced with several light corset stays. Used for fracture of the shafts of the metacarpal bones or dislocation of distal radio-ulnar joints and other conditions requiring some immobilization.

•

HITTENBERGER'S

1117 Market Street Son Froncisco 460 Post Street
Ooklond Son Moteo Fresno

California MEDICINE

OFFICIAL JOURNAL OF THE CALIFORNIA MEDICAL ASSOCIATION
© 1951, by the California Medical Association

VOL. 74 MAY 1951 No. 5

Carcinoma of the Thyroid Gland

ROBERT S. POLLACK, M.D., *San Francisco*

SUMMARY

Sixty-three cases of cancer of the thyroid gland were studied. In 16 cases the cancer arose in an adenoma—without clinical evidence of carcinoma in any instance.

Hoarseness, dyspnea and dysphagia, fixation and hardness, and slow enlargement of the lateral lymph nodes were the most common diagnostic signs and symptoms.

The most common avenue of spread is the lymphatic system. In two-thirds of the cases in which metastasis occurred, the cervical nodes were involved.

Prognosis is related to the histologic type of the lesion.

Of 35 patients observed for five years after treatment, ten had no evidence of disease at the end of that time. Twenty were followed for ten years and four of them apparently were free of cancer.

The trend in treatment is toward more extensive surgical dissection. In inoperable cases, irradiation has been used with some benefit.

THE wide differences in the clinical manifestations of cancer of the thyroid gland have created considerable divergence of opinion as to its true pathologic character and confusion as to proper treatment. The present study is based on 63 cases observed at the Stanford University Hospitals since 1921. Because of the variety of methods of treatment employed, with no one method predominant, statistical evaluation of results cannot be stressed. Rather, emphasis is put on the knowledge gathered on the course and development of the disease as related to the various histologic types, the location of cervical metastases, and the fate of patients with cancers that arose in simple adenomas.

From the Department of Surgery, Stanford University School of Medicine, San Francisco, California.

INCIDENCE

The percentage of cases in which nodular goiter becomes cancerous seems to vary from one part of the country to another.[3, 4] In Figure 1, the relative incidence reported in various parts of the United States is shown. The variations in figures are probably owing to the nature of the material studied, the small number of cases involved, and the tendency for patients with certain kinds of disease to gravitate to particular centers. Crile[5] noted that the surgical material studied represented a screened and selected incidence. Inaccuracy in classification of goiters adds to the confusion. Finally, autopsy material does not provide a true index. In the period 1944 to 1948, covered by Cole and co-workers,[3] there were 675 autopsies at the Illinois Research Hospital. In only two cases was thyroid cancer present. However, during this same period, 16 patients with thyroid cancer were operated upon. Of this number, 11 were known to be dead but autopsy was not done on any of them at the Illinois Research Hospital.

Carcinoma arising in diffuse toxic goiter is very rare,[4, 10, 27] and toxicity occurs infrequently in patients with thyroid cancer. When toxicity is present, as Friedell[9] has described, the carcinomatous area is not usually responsible for the hyperthyroidism.

In the present series of 63 cases of thyroid cancer, the growth arose from preexisting, clinically evident adenomas in 16 cases, or 25 per cent, an experience identical with that reported by other observers.[3, 18, 21]

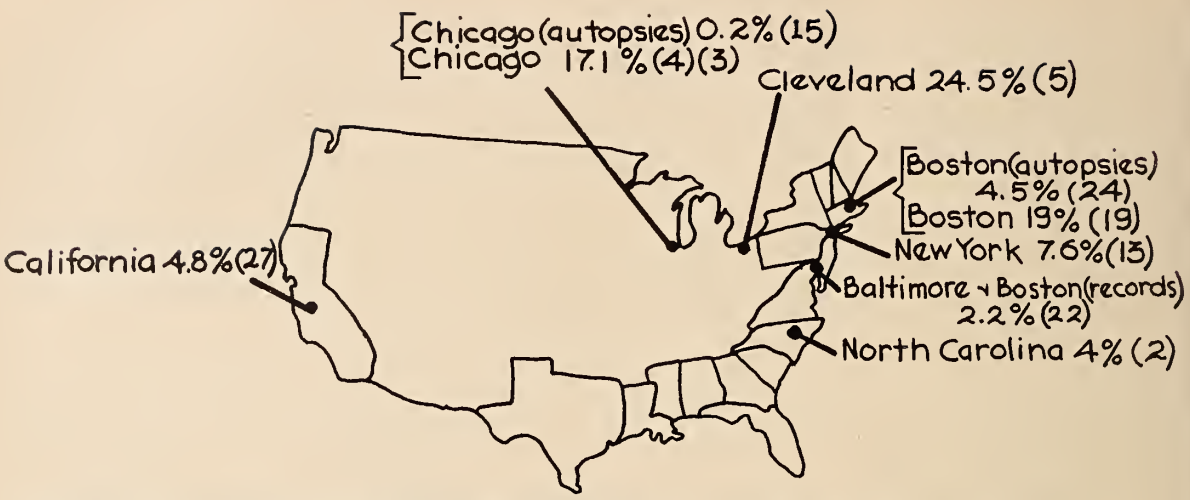


Figure 1.—Incidence of thyroid cancer in cases of nodular goiter in various areas of the United States. The figures are from surgical experience unless otherwise noted. The numbers in parentheses are reference numbers.

CLASSIFICATION

It is known that there are parallels between the morphologic pattern of thyroid tumors and the clinical manifestations associated with them and that the clinical picture varies with the type of tumor. The classification (Table 1) devised by Warren[28] and modified slightly by Means[19] and others,[8,14] enables the clinician to gauge the clinical course once the histologic nature of the lesion is known.

In some cases the clinical course associated with papillary tumor is extremely long, and as a consequence such tumors are considered of low grade malignancy. Papillary tumors occur most frequently in persons in the fourth and fifth decades of life. Thyroid cancers of youth and childhood are preponderantly papillary.

Certain tumors of the alveolar type are not diagnosed as cancer in pathologic examination of the operative specimen, owing to their extremely orderly structure. Months or years later a distant metastatic deposit may occur in a bone or elsewhere—a so-called "benign metastasizing struma."

Giant cell tumors of the thyroid gland are extremely malignant, and patients with this kind of tumor usually die soon. Frequently death is caused by obstruction of the trachea or esophagus, and, although visceral metastases occur, there is rarely time for them to develop. In the present series, two patients had giant cell tumors and died in three and six months respectively. The majority of patients had papillary adenocarcinoma.

Table 1.—*Classification of Thyroid Cancer*[8,14,19,28]

I. *Low Grade or Potential Cancer:*
1. Adenoma with blood vessel invasion.
2. Papillary cystadenoma with blood vessel invasion.

II. *Moderately Malignant:*
1. Papillary adenocarcinoma.
2. Alveolar adenocarcinoma.
3. Hürthle-cell adenocarcinoma.
4. Solid adenocarcinoma.

III. *Highly Malignant:*
1. Small cell carcinoma (carcinoma simplex).
2. Giant cell carcinoma.
3. Epidermal carcinoma.
4. Fibrosarcoma.
5. Malignant lymphoma.

METASTASES

Although thyroid cancers frequently invade the blood stream, the most common avenue of spread is through the lymphatic system. Lymph-borne metastases occur first in the cervical and later in the mediastinal nodes. The cervical lymph nodes of predilection are those palpated laterally, in the posterior triangle of the neck along the transverse cervical chain, or the nodes of the middle and superior groups along the internal jugular vein. More rarely, metastases occur in nodes within the submaxillary triangle. In several cases metastasis to an axillary node has been observed. Three patients in the present series had such metastases in addition to spread to other sites.

There were 30 patients in the present series who had metastases when first observed. Of this number, 20 had metastases to the cervical nodes only. In 18 cases in which an accurate description of the nodal metastasis was given, ten patients had involvement of the transverse cervical group of nodes, seven of the middle and superior jugular groups, and one of the submaxillary triangle group.

In several cases in which cancer in laterally placed cervical lymph nodes was observed, a diagnosis of cancer arising in lateral aberrant thyroid tissue was erroneously made. After many years of study, it is now realized that the growths in those nodes are metastatic from a small, primary cancer tucked away in the thyroid gland, usually not palpable and not known to be present until the lobe is rotated out of its bed.

DIAGNOSIS

A fixed or hard tumor causing symptoms of pressure on the trachea or esophagus is usually cancer. The signs and symptoms most frequently noted in the present series were: Fixation, especially to the underlying trachea; hardness, often described as "stony hardness"; hoarseness, without soreness or pain; slow, asymptomatic enlargement of lateral lymph nodes; and later dyspnea and dysphagia (Table 2). A history of a long-standing solitary nodule which suddenly increases in size is significant. One patient reported that about six months before she sought medical advice she noticed enlargement of a nodule which had been present for ten years. Six months after the first examination the patient died of widely disseminated metastases from a giant cell carcinoma of the thyroid.

TABLE 2.—*Clinical Data on 63 Cases of Thyroid Cancer*

Age: 30 cases were between 40 and 59 years; extreme, 6 to 86 years.	
Sex: 26 males; 37 females.	
Symptoms of toxic thyroid gland: 7 cases.	
Metastases (when observed on admission):	
Total cases	30
Cervical node	20
Skeletal and visceral	10
Recurrent tumor (following previous surgical treatment): 13 cases.	
Occurring as adenomas:	
Single	12
Multiple	4
Total	16
Diagnosed preoperatively: 32.	
Duration of tumor*—primary and/or metastatic (51 cases):	
Present less than 6 months	17
Present less than 12 months	27
Present less than 24 months	32

*As determined from case history.

RESULTS

The average five-year survival rate for patients with cancer of the thyroid gland is about 32 per cent,[3] although five-year survival rates below 10 per cent have been reported.[7,29] However, the slow growth of some of the tumors and the ten-year survival of patients with metastases compels abandonment of the "five-year cure" viewpoint in evaluating thyroid cancer.[30] The results in the present series are listed in Table 3. Twenty of the 44 patients who survived a year or more without disease had papillary adenocarcinoma, seven had adenocarcinoma, two had benign metastasizing struma (alveolar cell type), and ten had carcinoma of unclassified type (Chart 1). Of the ten patients who survived beyond five years without evidence of disease, five had papillary adenocarcinoma, two had adenocarcinoma and three had unclassified carcinoma. A significant observation is that of the four patients surviving ten years, only one had a papillary tumor. One had an adenocarcinoma and two had unclassified carcinoma.

Because it is frequently stated that tumors of the thyroid gland may be present for years and therefore cannot be very malignant, particular attention was given the records of 23 patients with accurate histories showing the presence of a tumor two years or more before the first observation by a physician. Four of them were dead within a year, seven within two years. One patient had had a lump in the right lobe of the thyroid gland for 40 years. Only partial removal of the tumor was possible at operation. The pathologic diagnosis was papillary adenocarcinoma. Radioactive iodine and x-ray therapy were of no

CHART 1

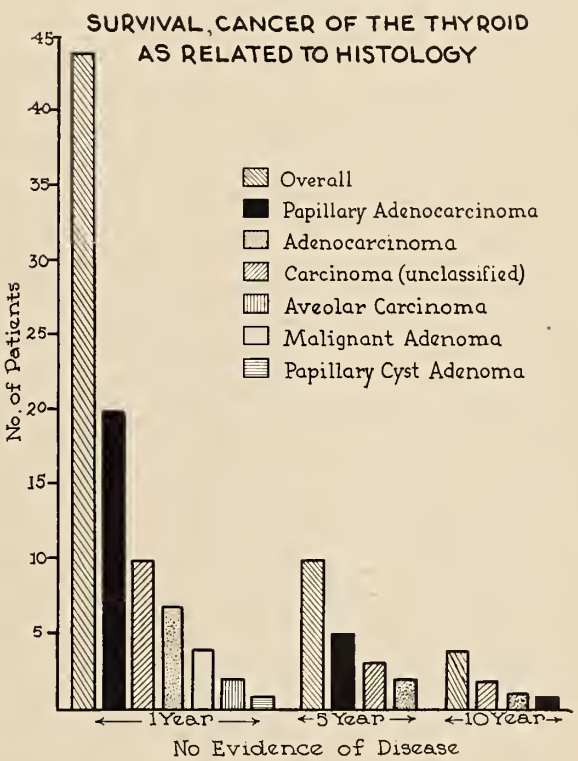


TABLE 3.—*Results in 60 Cases of Cancer of the Thyroid Gland with Follow-up of One Year or More*

Duration Follow-up (years)	No. Patients	NED*	AWD*	LTO*	DOC*	(Per cent) Det.†	Indet.†
1	60	44	4	0	1	73	80
3	41	18	3	1	1	44	49
5	35	10	0	1	1	29	34
10	20	4	0	2	1	20	35

*Abbreviations: NED, no evidence of disease; AWD, alive with disease; LTO, lost to observation; DOC, died of other cause.

†Det. (Determinate): Known to be living without evidence of cancer. Indet. (Indeterminate): Assuming that patients lost to observation are still living, without evidence of cancer, and that those known to have died of other causes would have been free of cancer if they had lived to the end of the period indicated.

help. Eighteen months after the first examination the patient had widespread, painful metastases and obviously was in the terminal phase of the disease. Another patient had a thyroid tumor that had been present for 25 years. The report on a biopsy specimen was adenocarcinoma, but the tumor was deemed inoperable. Radioactive iodine, then x-ray therapy were given without benefit. A year after the first examination there was generalized metastasis and the patient was moribund. In another case, that of a woman who had had a goiter for 20 years, thyroidectomy was attempted but only subtotal removal could be accomplished. X-ray therapy was of no benefit. The pathologist reported anaplastic carcinoma. The patient died of cancer two months after the first examination.

In the total series of 63 patients, 24 died of cancer, 21 of them within five years. Seven more were alive, with cancer, at the time of this report and were expected to die within five years of the time they were first observed. Four patients died of other causes. Although in some cases patients may survive for relatively long periods, half of the patients in this series died or were expected to die within five years.

CANCER ARISING IN ADENOMAS

Many authorities contend that most thyroid cancers arise from nodular or adenomatous goiters.[4,13,16,17,28] However, the rapid, diffuse enlargement of the entire gland and the histologic features in some cases controvert that assumption. Pemberton[21] stated that the exact relationship is difficult to establish since the tumor may overgrow and obscure the original site of the cancer. Nevertheless, the relatively favorable results following adequate removal of cancer arising in an adenoma[13,14] as compared with the short survival of patients with the more diffuse tumors, suggests that there are two kinds of thyroid cancers. When the presence of cancer is obvious, the prognosis is poor. The highest survival rate is among patients with asymptomatic cancer within an adenoma. Much of the confusion in treatment and results springs from controversy in connection with such lesions. On the one hand it is stated that lesions of this kind are not true cancers, and on the other that the malignancy of such lesions is far underestimated.

Table 4 shows some of the clinical features and results in the 16 cases in this series in which cancer arose in a clinically evident adenoma.

TREATMENT

It is not possible to evaluate any one method of treatment on the basis of experience in the present series, but the trend is toward a more radical approach,[3,8,16,17,26,29,31] the ultimate being hemithyroidectomy (or total thyroidectomy if necessary) in continuity with radical neck dissection. Total lobectomy with frozen section rather than adenomectomy is recommended for solitary tumors. Not only will this remove a malignant tumor more adequately, but it is felt that the presence of one adenoma often results in the formation of another within the same lobe, and the problem of recurrence has then to be dealt with. If the tumor is situated in the isthmus, a wide resection including one lobe or portions of both lateral lobes is advisable. Multiple adenomas are treated by total or near total thyroidectomy.

Neck dissection is reserved for use in cases in which the primary tumor has invaded the capsule, has involved the surrounding musculature, or has metastasized to cervical nodes. It includes removal of the internal jugular vein and sternocleidomastoid muscle and also (in view of metastasis to this area observed recently in several cases of thyroid cancer) dissection of the submaxillary triangle. The musculature overlying the involved lobe is removed in continuity with the contents excised in the neck dissection and lobectomy. In cases in which the growth is extensive it may be unwise to preserve the recurrent laryngeal nerve—better to sacrifice this structure in the interest of cleaner dissection.

There is by no means universal agreement upon this method of treatment. Crile[5] and Black[1] are not convinced that radical resection will add materially to the ultimate result. The problem of early invasion of veins is also to be considered, but the invasion of thyroid tumors into a vein may remain localized for a long time, a true embolus not forming for months or even years. The long survival of patients who have thyroid cancer with vein invasion is pertinent. The tendency for recurrent thyroid cancer to extend within veins and the need for wide and radical removal of the veins together with the tumor has been well stressed by Graham.[11,12]

If the tumor has grown into the thyroid cartilage on one side, removal of the cartilage is preferable to cutting across invaded tissue. As is known, thyroid cancer grows backward into the trachea and esophagus, but it should be pointed out that frequently these structures will be attached to the cancer, without actually being involved by it.[16] In an extensive neck operation requiring much dissection across the tracheal bed, tracheotomy at the close of the procedure is advisable.

RADIATION THERAPY

Although the treatment of thyroid cancer is primarily a surgical problem, radium and x-ray treatment can be effective against tumors of certain types, particularly papillary tumors. When the surgeon feels confident that no cancer remains following operation, there appears to be no reason for irradiation of the postoperative field as a prophylactic measure. If residual disease is present, accurate roentgen therapy to the diseased area has proved of help when given in large enough amounts. As such therapy, like any other, is not without sequelae, it should not be undertaken lightly. Surgical and x-ray treatment may be combined in otherwise hopeless cases for possible palliation. In the present series three patients who were treated with x-ray alone because they were deemed inoperable lived for three, four and five years respectively.

Radioactive iodine has given encouraging results in the treatment of toxic thyroid disease if the uptake of I^{131} by the thyroid gland is large. Unfortunately, in only a few cases will the cancer pick up radioactive iodine, and even in those few the amount is often too small to be of therapeutic value. Apparently the faculty of up-take possessed by a normal or toxic thyroid gland is lost when carcinoma develops.[3] Except in an occasional case, therefore, radioactive iodine in its present form will contribute very little to the therapy of thyroid cancer.

450 Sutter Street.

REFERENCES

1. Black, B. M.: Surgical treatment of carcinoma of the thyroid gland, Tr. Am. Assoc. Study of Goitre, 1947, pg. 34.

2. Brenizer, H. G., and McKnight, R. B.: True adenomas and their relation to cancer, Tr. Am. Assoc. Study of Goitre, 1940, pg. 176.

3. Cole, W. H., Slaughter, D. P., and Rossiter, L. J.: The potential danger of nontoxic goitre, J.A.M.A., 127:883, April 7, 1945.

4. Cole, W. H., Slaughter, D. P., and Majarakis, M. S.: Carcinoma of the thyroid gland, Surg. Gynec. and Obst., 89:349, Aug. 1949.

5. Crile, G., Jr., and Dempsey, W. S.: Indications for removal of non-toxic nodular goitres, J.A.M.A., 139:1247, April 30, 1949.

6. Crile, G., Jr.: Papillary carcinoma of the thyroid and lateral cervical region; so-called "lateral aberrant thyroid," Surg. Gynec. and Obst., 85:757, Dec. 1947.

7. Dargent, M.: Indications et résultats du traitement chirurgical du cancer thyroidien, J. Chir. Par., 58:28, Jan. 1941.

8. Frazell, E. L., Foote, F. W.: The natural history of thyroid cancer, J. of Clin. Endocrin., 9:1023, Dec. 1949.

9. Friedell, M. T.: Hyperthyroidism and adenocarcinoma of the thyroid gland, Arch. Surg., 43:386, Sept. 1941.

10. Goetsch, E.: Incipient carcinoma occurring in exophthalmic goitre and originating in adenoma, Tr. Am. Assoc. Study of Goitre, 1940, pg. 191.

11. Graham, A.: Malignant epithelial tumors of the thyroid, Surg. Gynec. and Obst., 39:781, Oct. 1924.

12. Graham, A.: Malignant tumors of the thyroid-epithelial types, Ann. Surg., 82:30, July 1925.

13. Hinton, J. W., and Lord, J. W., Jr.: Is surgery indicated in all cases of nodular goitre, toxic and non-toxic?, J.A.M.A., 129:605, October 27, 1945.

14. Horn, R. C., Jr., et al.: Carcinoma of the thyroid, Ann. Surg., 126:140, Aug. 1947.

15. Jaffe, R. H.: Variation of weight of thyroid gland and frequency of its abnormal enlargement in region of Chicago, Arch. Path., 10:887, Dec. 1930.

TABLE 4.—*Thyroid Cancer Arising in Adenoma—Studies of 16 Patients*

Sex	Solitary or Multiple	Diag. Made	Histology	Treatment	Neck Node Metastases	Results*
F	S	Surgically ?Clinically	Papillary adenocarcinoma	Partial thyroidectomy, x-ray, I^{131}	—	AWD 2 yr.
F	S	Surgically	Carcinoma	Subtotal thyroidectomy, x-ray	—	DOD 2½ yr.
F	S	Surgically	Papillary adenocarcinoma	Subtotal thyroidectomy, right and left	—	NED 1 yr.
M	S	Surgically	Papillary adenocarcinoma	Subtotal thyroidectomy, right and left	—	NED 1 yr.
F	S	Surgically	Adenocarcinoma	Right lobectomy	—	NED 4 yr.
F	S	Surgically	Adenocarcinoma	Left lobectomy	—	NED 3 yr. then DOC.
F	S	Surgically ?Clinically	Malignant adenoma (Carcinoma)	Suhtotal thyroidectomy	—	NED 9 yr.
F	S	Surgically	Malignant adenoma (Carcinoma)	Right lobectomy, plus attached node	+	NED 3½ yr.
F	S	Surgically	Papillary adenocarcinoma	Right lohectomy, partial left lobectomy	—	NED 3 yr.
F	S	Surgically ?Clinically	Papillary adenocarcinoma	Left lobectomy, subtotal right lobectomy	—	NED 3 mo.
F	S	Surgically	Papillary adenocarcinoma	Left lohectomy, local excision of nodes, lower and upper jugular chain	+	NED 3 yr.
F	S	Surgically	Giant cell carcinoma	Left lobectomy, x-ray	—	DOD 3 mo.
F	M	Surgically	Malignant adenoma (Carcinoma)	Subtotal thyroidectomy, right and left	—	NED 2½ yr.
F	M	Surgically	Papillary carcinoma	Subtotal thyroidectomy, right and left	—	LTO 1 mo.
F	M	Surgically	Papillary cyst adenocarcinoma	Subtotal thyroidectomy, right and left	—	NED 16 yr.
F	M	Surgically	Adenocarcinoma (metastatic struma)	(multiple) Adenomectomy	—	DOD 6 yr. 4 mo.

*Abbreviations: NED, no evidence of disease; DOD, died of disease; AWD, alive with disease; LTO, lost to observation.

16. Lahey, F. H., Hare, H. F., and Warren, S.: Carcinoma of the thyroid, Ann. Surg., 112:977, Dec. 1940.

17. Lahey, F. H.: Carcinoma of the thyroid, Am. J. Roentg. and Rad. Therapy, 46:469, Oct. 1941.

18. McSwain, B., and Diveley, W.: Malignant tumors of the thyroid gland, Surg., 23:525, July 1948.

19. Means, J. H.: The Thyroid and Its Diseases, Second Edition. 1948. J. B. Lippincott Co., pg. 453.

20. Outerbridge, R. E.: Benign metastatic goitre, Ann. Surg., 125:282, March 1947.

21. Pemberton, J.: Malignant lesions of the thyroid gland, Surg. Gynec. and Obst., 69:417, Oct. 1939.

22. Rogers, W. F., Jr., Asper, S. P., Jr., and Williams, R. H.: Clinical significance of thyroid adenoma, New Eng. J. Med., 237:569, October 16, 1947.

23. Rouviere, H.: Anatomie des Lymphatiques de L'Homme, pg. 439, 1932, Masson et Cie., Editeurs, Paris, France.

24. Schlesinger, M. J., Gargill, S. L., and Saxe, I. H.: Studies in nodular goitre, incidence of thyroid nodules in routine necropsies in non-goitrous regions, J.A.M.A., 110: 1638, May 14, 1938.

25. VanderLaan, W. P.: Occurrence of carcinoma in autopsy material, New Eng. J. Med., 237:221, August 14, 1947.

26. Ward, G. E., Hendrick, J. W., Chambers, R. G.: Carcinoma of the thyroid gland, Ann. Surg., 131:473, April 1950.

27. Ward, R.: Malignant goitre, Surg., 16:783, Nov. 1944.

28. Warren, S.: The classification of tumors of the thyroid, Am. J. Roentg. and Rad. Therapy, 46:447, Oct. 1941.

29. Watson, W. L., Pool, J. L.: Cancer of the thyroid, Surg. Gynec. and Obst., 70:1037, June 1940.

30. Wozencraft, P., and Foote, F. W.: Occult carcinomas of the thyroid, Tr. of the Am. Assoc. Study of Goitre, 1948, pg. 150.

31. Personal communications.

The Collagen Diseases

H. Russell Fisher, M.D., *Los Angeles*

SUMMARY

The collagen diseases have in common certain relatively specific alterations in the tissues that are derived from the mesenchyme.

In reviewing the development of this concept, the nature and the pathogenesis of these changes and the blocking effect of cortisone and ACTH are discussed.

The term "diseases of the collagen system" includes a number of clinical states within a broad spectrum of variation in the basic alterations of collagenous and vascular tissues. In rheumatoid arthritis the modifications are chiefly in the somatic connective tissue; in periarteritis nodosa the blood vessel involvement is preeminent; dermatomyositis and disseminated lupus erythematosus present more intermediate mixtures of these changes.

THE principal site of the morphologic changes of the collagen diseases is in the connective tissues widespread throughout the body. The cells of this tissue, derived from primitive fibroblasts, have long had a recognized position in the understanding of certain pathologic processes, such as repair. The intercellular substance is made up of fibers embedded in a homogeneous matrix, or ground substance. The structural and mechanical functions of connective tissue are performed particularly by its collagenous, elastic, and reticulum fibers. This fiber component justifies the name of the tissue, for it connects other structures; serves as the framework for the parenchymatous cells; and, frequently, as in the heart valves, provides essential working parts of organs. The ground substance, homogeneous and colloidal in nature, is concerned with the less obvious functions of connective tissue in the transfer of metabolites, and in electrolyte and water balance. As the term "collagen" is the Greek for "glue-forming," it is appropriate as a synonym to designate this tissue. (In a fundamental experiment an animal glue is obtained by the boiling of connective tissue.) Such a chemical term more intimately connotes the metabolic activities of the tissue and its features of permeability.

In its derivation from mesenchyme, collagenous tissue has a close ontogenetic association with reticulum and the reticuloendothelial system, mesothelium and endothelium, smooth muscle, and the dense structural tissues. Aegerter and Long[1] recently emphasized that basic defense activities are shared by these mesenchymal derivatives. Hence, it is understandable that the pathological alterations of the collagen system are intimately related to morphologic changes in the ubiquitous branches of the vascular system and in the serous membranes, and to the chemical activities mediated by the reticuloendothelial system.

Histopathologic alterations peculiar to the intercellular portion of connective tissue were observed as long ago as 1880 by Neumann. The term "fibrinoid degeneration" was applied to an acellular, refractile, homogeneous material change that had the prominent eosinophilic staining reaction of fibrin. In undergoing fibrinoid degeneration, the collagen fibers were noted to be swollen and fragmented and the ground substance increased in amount, acquiring an unusual density and striation. Subsequent observers described this change in various inflammatory and degenerative states. Klinge,[19] in 1933, considered it of primary importance in the tissue modifications of rheumatic fever. Studies of the microscopic features of such diseases as disseminated lupus erythematosus and scleroderma gradually developed the recognition of a basic pattern of diffuse vascular and collagen system alteration.[3]

In 1941, Klemperer and his associates[18] summarized their observations on the widespread fibrinoid formation and swelling of the ground substance of the collagenous tissue in the heart, blood vessels, serous membranes, joint capsules, dispersed connective tissue and skin, as well as the characteristic splenic and renal lesions, in disseminated lupus erythematosus. They expressed the concept of the basic importance of such morphologic alterations of the collagen system, establishing the terms "collagen disease" and "diseases of the collagen system."

Fibrinoid degeneration, vascular necrosis, and fibrosis have been encountered as a common denominator in the histopathologic changes of serum sickness, periarteritis nodosa, disseminated lupus erythematosus, rheumatic fever, rheumatoid arthritis, scleroderma, and dermatomyositis. These diseases are recognized as members of the collagen disease group, representing a spectrum of similar alterations in collagenous tissue in dissimilar degrees and distribution. Unrestricted interpretation of fibrinoid vascular change has led various proponents to include in this group such diseases as glomerulonephritis, malignant hypertension, thromboangiitis obliterans, and the Schönlein-Henoch syndrome.[6] But there has not been general acceptance of such inclusions. Against the natural tendency to give a totally common identity to the collagenous diseases, Klemperer[17] has steadfastly maintained that each disease is a separate entity with its own specific anatomical and clinical definition, even though the changes it causes occur in a common systemic site.

From the Moore-White Clinic, and the Department of Pathology of the University of Southern California.

Presented before the Section on Pediatrics at the 79th Annual Session of the California Medical Association, San Diego, April 30-May 3, 1950.

Yardumian and Kleinerman[33] presumed that the blood vessel lesion is antecedent to fibrinoid degeneration, and proposed the term "panarteriolitis" to describe the varied alterations of degenerative, proliferative, and inflammatory nature found in the blood vessels. They interpreted the vascular and collagenous changes in these diseases as representing an "accelerated aging" of these tissues, rather than as a unique process.

The role of allergic reaction as an etiologic factor was originally suggested by clinical considerations and supported by the studies of the German pathologists[8, 20] from 1923 to 1938. Rich,[25] since his observations in 1942 on periarteritis nodosa, serum sickness, and sulfonamide therapy, has ably championed the view that fibrinoid collagenous change and the associated arteriolar reaction are manifestations of hypersensitivity. These alterations have been produced experimentally on a hypersensitivity basis by Rich and Gregory[26] and by subsequent workers up to the present. Similar changes are repeatedly observed in microscopic examination of tissues from subjects with allergic conditions. The author observed pronounced fresh fibrinoid necrosis of arterioles widespread in the various organs in a year-old child who died in an acute state of allergic disease. The increase in eosinophilic leukocytes in the blood which has been observed in association with a number of the collagen diseases lends further support to the belief in allergic sensitivity as a causative factor.

As similar collagen changes can be produced by factors apparently unrelated to hypersensitivity, the specificity of fibrinoid degeneration becomes a paramount question. As originally defined and subsequently interpreted, fibrinoid material is characterized by the morphologic phase of homogeneity with refractility and eosinophilic staining reaction. Its appearance suggests a modification of the colloidal state similar to that of coagulation necrosis. Fibrinoid material has been observed in association with many bacterial infections, in the bed of peptic ulcers, and in the vessels of subjects with experimentally induced hypertension; and it has been produced by simple squeezing of the skin. It cannot be assumed to be a specific or pathognomonic manifestation of the hypersensitive state as that state is ordinarily understood.

Significant advances have been made in elucidating the physical and chemical nature of collagen, and therein lies the hope of ultimately understanding its pathological alterations. The electron microscope has revealed essential differences in its nodal structure.[7] The ground substance is a gel composed of acid mucopolysaccharides like hyaluronic acid. Such compounds are highly viscous, and their state of phase and water content are sensitive to pH change due to their high polymerization. Hyaluronidase reduces their viscosity. It appears that fibrinoid material is formed by precipitation of the acid mucopolysaccharides of the ground substance, and that the precipitation possibly is caused by an alkaline protein derived either from necrotic tissue or from reaction with a damaging reagent. Fibrinoid material can be identified by its positive reaction with the Schiff reagent after periodic acid oxidation.[2]

The formation of plasma globulin, especially the immune globulins of the gamma type, is attributed to the reticuloendothelium. If collagenous alterations are interpreted as a part of a defense reaction of the mesenchyme in which reticulum participates, there is a logical correlation with the hyperglobulinemia frequently encountered in collagen diseases. In explaining the emphasized reaction of the connective tissue cells, Aegerter and Long[1] postulated the formation of antibodies which are retained in the cytoplasm of the cellular elements and which participate in an intracellular hypersensitivity reaction. This appears to be substantiated by the work of Warren and Dixon[32] in which radioactively labeled antigen was located in the edematous peribronchial tissues in experimentally induced anaphylactic shock.

Changes in the collagenous subcutaneous tissue in various endocrine states, such as hypothyroidism, have long been recognized. Selye[27] demonstrated experimentally the production of mucinous edema by estradiol. An extension of the same investigator's concept of adaptation exposes the role of cortical adrenal activity in the body defense reaction.[28] In 1948, it was found that ACTH caused a drop in the gamma globulin.[4] The epochal work of Hench, Kendall, and co-workers[12] has shown the astounding temporary efficacy of ACTH and cortisone (Kendall compound E) in rheumatoid arthritis, rheumatic fever, and other members of the collagen disease group. Any excitant of adrenal cortical activity, such as epinephrine or insulin, appears to have a similar although lesser effect. Both ACTH and cortisone regularly depress the gamma globulins,[13] reduce the eosinophilic leukocytes of the blood,[31] and inhibit the proliferation of fibroblasts. The healing of wounds[23] and fractures[24] is powerfully inhibited by these substances. Adrenal steroids have an inhibitory effect on the "spreading factor" of the skin. The hyperadrenal state induced directly by cortisone, or indirectly by ACTH, appears to block the usual mesenchymal tissue reactions, whether expressed as wound healing or the development of hypersensitivity. Perhaps this is accomplished in part by alterations in tissue permeability.[5] The voluminous work being published currently on the activity of ACTH continually exposes new, beneficial effects of ACTH in the collagen diseases[22] and constitutes one of the most brilliant chapters of American medicine.

In explaining the individual differences in the separate diseases which are associated as the collagen group, it has been proposed that these differences are accounted for by the variations in the provocative antigenic agents, the hormone control, and the constitutional predisposition which affects the mesenchymal defense unit.[1] The multitude of similarities and the specific differences of the collagenous diseases have been summarized in the recent publications of Stewart[30] and Kampmeier.[14]

Procedures identifying the individual diseases are becoming more numerous. Periarteritis nodosa is being diagnosed frequently by biopsy.[16] In active rheumatoid arthritis, intramuscular aggregates composed of a central nodule of lymphocytes surrounded by plasma cells have been observed regularly.[21, 29] A particular cell, the "L.E." cell, has been found in the blood and bone marrow in disseminated lupus erythematosus.[10] This cell is an expanded polynuclear leukocyte containing vacuoles of nuclear chromatin in various stages of digestion. That the agent responsible for this lytic-phagocytic phenomenon resides in the globulin of the blood is demonstrated by the regular appearance of "L.E." cells in large numbers in normal bone marrow to which serum from a person who has disseminated lupus erythematosus is added.[11]

These recent advances appear to support and expand the basic concept that a similar pathologic process of mesenchymal tissue finds expression in the various collagen diseases. As a basic tissue reaction mechanism, it holds a position analogous to that of suppurative inflammation. Throughout the varied etiologic features of the individual diseases, there is the recurring suggestion of hypersensitivity, and modification by constitutional and endocrinous factors. The control exerted upon mesenchymal tissue reaction, either indirectly by ACTH, or directly by cortisone, aids in the understanding of the functional activity of the tissue and opens new vistas of therapeutic possibilities.

REFERENCES

1. Aegerter, E., and Long, J. H.: The collagen diseases, Am. J. M. Sc., 218:324-337, Sept. 1949.

2. Altshuler, C. H., and Angevine, D. M.: Histochemical studies on the pathogenesis of fibrinoid, Am. J. Path., 25:1061-1077, Sept. 1949.

3. Banks, B. M.: Is there a common denominator in scleroderma, dermatomyositis, disseminated lupus erythematosus, Libman-Sacks syndrome and polyarteritis nodosa?, New England J. Med., 225:433-444, Sept. 18, 1941.

4. Forsham, P. H., Thorn, G. W., Prunty, F. T. G., and Hills, A. G.: Clinical studies with pituitary adrenocorticotropin, J. Clin. Endocrinol., 8:15-66, Jan. 1948.

5. Freyberg, R. H.: Effects of Cortisone and ACTH in rheumatoid arthritis, Bull. New York Acad. Med., 26:206-211, April 1950.

6. Gairdner, D.: Schönlein-Henoch syndrome (anaphylactoid purpura), Quart. J. Med., 17:95-122, April 1948.

7. Gale, J. C.: Electron microscopic studies of collagen from normal and diseased tissues, Am. Assn. Path. and Bact., 47th Ann. Meet., April 14, 1950.

8. Gerlach, W.: Studien über hyperergische Entzündung, Virchows Arch. f. path. Anat., Berl., 247:294-361, 1923.

9. Godlowski, Z. Z.: Stimulation of the suprarenal glands in the treatment of rheumatoid arthritis: preliminary report, Ann. Rheumat. Dis., 8:285-289, Dec. 1949.

10. Hargraves, M. M., Richmond, H., and Morton, R.: Presentation of two bone marrow elements; "tart" cell and "L.E." cell, Proc. Staff Meet., Mayo Clin., 23:25-28, Jan. 21, 1948.

11. Haserick, J. R.: Blood factor in acute disseminated lupus erythematosus, Am. Assn. Path. and Bact., 47th Ann. Meet., April 14, 1950.

12. Hench, P. S., Kendall, E. C., Slocumb, C. H., and Polley, H. F.: The effect of a hormone of the adrenal cortex (17-hydroxy-11-dehydrocorticosterone: compound E) and of pituitary adrenocorticotropic hormone on rheumatoid arthritis: preliminary report, Proc. Staff Meet., Mayo Clin., 24:181-197, April 13, 1949.

13. Hench, P. S., Slocumb, C. H., Barnes, A. R., Smith, H. L., Polley, H. F., and Kendall, E. C.: The effects of the adrenal cortical hormone 17-hydroxy-11-dehydrocorticosterone (Compound E) on the acute phase of rheumatic fever: preliminary report, Proc. Staff Meet., Mayo Clin., 24:277-297, May 25, 1949.

14. Kampmeier, R. H.: Vascular diseases due to hypersensitivity: so-called diffuse collagen disease, Am. Pract., 1:113-121, Feb. 1950.

15. Keil, H.: Conception of lupus erythematosus and its morphologic variants, with particular reference to "systemic" lupus erythematosus, Arch. Dermat. & Syph., 36:729-757, Oct. 1937.

16. King, Boyd G.: The clinical diagnosis of periarteritis nodosa: report of four cases, Ann. Int. Med., 32:466-476, March 1950.

17. Klemperer, P.: Diseases of collagen system, Bull. New York Acad. Med., 23:581-588, Oct. 1947.

18. Klemperer, P., Pollack, A. D., and Baehr, G.: Pathology of disseminated lupus erythematosus, Arch. Path., 32:569-631, Oct. 1941.

19. Klinge, F.: Der Rheumatismus; pathologisch—anatomische und experimentell—pathologische Tatsachen und ihre auswertung für das ärztliche Rheumaproblem, Ergebn. d. allg. Path. u. path. Anat., 27:1-351, 1933.

20. Masugi, M., and Yä, S.: Die diffuse Sklerodermie und ihre Gefässveränderung, Virchows Arch. f. path. Anat., 302:39-62, 1938.

21. Naide, M., Sayen, A., and Comroe, B. I.: Characteristic vascular pattern in patients with rheumatoid arthritis, Arch. Int. Med., 76:139-142, Sept. 1945.

22. Proc. First Clinical ACTH Conf., Oct. 21, 1949, Blakiston Co., Philadelphia, 1950.

23. Ragan, C., Grokoest, A. W., and Boots, R. H.: Effect of adrenocorticotropic hormone on rheumatoid arthritis, Am. J. Med., 7:741-750, Dec. 1949.

24. Ragan, C., Howes, E. L., Plotz, C. M., Meyer, K., Blunt, J. W., and Lattes, R.: The effect of ACTH and Cortisone on connective tissue, Bull. New York Acad. Med., 26:251-254, April 1950.

25. Rich, A. R.: Role of hypersensitivity in periarteritis nodosa as indicated by seven cases developing during serum sickness and sulfonamide therapy, Bull. Johns Hopkins Hosp., 71:123-140, Sept. 1942.

26. Rich, A. R., and Gregory, J. E.: Experimental demonstration that periarteritis nodosa is a manifestation of hypersensitivity, Bull. Johns Hopkins Hosp., 72:65-88, Feb. 1943.

27. Selye, H.: Effect of folliculoid hormones on abnormal skin; further observations of effect of estradiol on skin of mice of rhino, hairless and naked strains, Arch. Dermat. & Syph., 50:261-263, Oct. 1944.

28. Selye, H., and Pentz, E. I.: Pathogenetical correlations between periarteritis nodosa, renal hypertension and rheumatic lesions, Canad. M. A. J., 49:264-272, Oct. 1943.

29. Steiner, G., and Chason, J. L.: Differential diagnosis of rheumatoid arthritis by biopsy of muscle, Am. J. Clin. Path., 18:931-939, Dec. 1948.

30. Stewart, L. L.: The collagen diseases, J. Michigan M. Soc., 48:344-346, March 1949.

31. Thorn, G. W., Forsham, P. H., Prunty, F. T. G., and Hills, A. G.: A test for adrenal cortical insufficiency: the response to pituitary adrenocorticotropic hormone, J.A.M.A., 137:1005-1009, July 17, 1948.

32. Warren, S., and Dixon, F. J.: Antigen tracer studies and histologic observations in anaphylactic shock in the guinea pig, Am. J. M. Sc., 216:136-145, Aug. 1948.

33. Yardumian, K., and Kleinerman, J.: Pathogenesis of so-called diffuse vascular or collagen disease, Arch. Int. Med., 83:1-26, Jan. 1949.

Management of Cancer of the Nasal Cavity and Paranasal Sinuses

S. L. Perzik, M.D., *Beverly Hills*

SUMMARY

Cancer involving the antrum can be cured in a greater percentage of cases if the lesions are detected earlier, specifically diagnosed histologically, and radically managed at the time of the initial treatment. The procedure of choice is, first, surgical removal (with a scalpel) of as much of the tumor as is possible without risk of operative death, then limited but specific cancerocidal radiation as indicated by operative findings or regular postoperative observation. The period of convalescence will be less distressing and shorter with this procedure than with others; and, in those cases in which cure is not effected, palliation will be more satisfactory. The cured patients are cosmetically acceptable without functional disability except for unilateral loss of vision in cases in which exenteration of the orbit is necessary.

CANCER of the nasal cavity and paranasal sinuses makes up about 0.2 per cent of all malignant tumors. Eighty per cent of these lesions arise in the maxillary antrum. However, this is usually difficult to prove because by the time the patient is first observed the extent of the involvement masks the point of origin in a majority of the cases. This is of only academic importance, as the management of these primary lesions is dependent upon their extent rather than the site of origin. On the other hand, the fact that definitive treatment often is not begun until the growth is extensive makes for end-results which are much poorer than they need be. In this regard it is particularly noteworthy that in the great majority of cases death is caused by local complications and sequelae rather than by distant metastases. In addition, the increased morbidity occasioned by delay results in excruciating local pain, sepsis, and bleeding and foul-smelling ulcerated lesions which make social outcasts of the sufferers. According to reports of observations at autopsy, distant metastasis occurs in not over 25 per cent of cases; in the other 75 per cent, presumably, death is caused by the local effects of the lesion.

REPORTED END-RESULTS

A contributing factor in the deaths from such local lesions is omitting to apply the best treatment, adequately, when the patient is first observed. This omission is owing either to undue pessimism or to lack of knowledge regarding the efficacy of the therapeutic measures available. Too often, this frame of mind is influenced by publications of statistical end-results, based on a selected group of cases, "proving" the effectiveness of a special form of treatment or indicating that trying to cure the patients by any form of therapy is hopeless. For example, Tod[3] in 1948 analyzed a group of 100 patients, treated by the insertion of radium within the substance of the antral cancer, with five-year arrest in 26 per cent of cases. It was claimed, therefore, that this was the method of choice in the treatment of these lesions. Yet, in a critical analysis of the body of the article in which this conclusion was reached, it was noted that for the entire series of 222 patients reported upon by Tod, who were treated by all methods, the five-year salvage rate was 25 per cent. Windeyer[4] of Middlesex Hospital, London, reported in 1948 that in cases in which radium alone was used, the five-year arrest rate was 18.8 per cent. In a later group treated by a combination of primary external x-irradiation, followed by limited electrosurgical excision of the palate, for both drainage and removal of residual necrotic tissue or tumor, together with subsequent intracavitary insertion of radium (if indicated), the five-year arrest rate was 25 per cent. The treatment period covered four to six months with continued discharge of necrotic material and sequestration of the thermal-coagulated and radiated tissues for at least another three to six months. The patients had pain, foul-smelling discharge and hemorrhages and were greatly dependent on professional assistance during this long period of treatment. Del Regato[2] reported a series of ten patients treated by x-irradiation alone with 40 per cent five-year salvage. Berven,[1] of Stockholm, reported only 6 per cent five-year salvage in a group of 222 patients similarly treated. As both investigators are competent radiologists, it may be assumed that the pronounced disparity in the reported results is ascribable to the manner in which each selected cases for treatment, and to the manner of subsequent analyses. Wille[5] of the Norwegian Radium Hospital of Oslo reported on 220 cases. The highest five-year salvage rate, 18.1 per cent, was in a group of patients treated by radical operation and intensive postoperative irradiation. The poorest result was five-year arrest of the lesion in 6.3 per cent of 95 patients treated by radiation alone.

In further study of the reports mentioned it was observed that the best results were attained in cases

Presented before the Section on Eye, Ear, Nose and Throat, at the 79th Annual Meeting of the California Medical Association, San Diego, April 30-May 3, 1950.

in which surgical treatment of one kind or another was used, irrespective of the role played by radiation. In all instances, operation was resorted to for drainage of the antrum because of the trapped products of tumor necrosis, radiation destruction, or infection. In most cases adequate post-radiation operation resulted in the extirpation of as much tissue as might have been removed if operation had been selected in the first place as the primary therapeutic agent. Yet, because of the initial intensive radiation, necrotic bony walls and sloughing, foul, cavity linings remained after operation. The patients were subject to frequent, often serious, hemorrhages and needed prolonged and expensive nursing care. Since extensive operation is usually done sooner or later, it would seem reasonable to presume that definitive application of radical operation at the outset should be the treatment of choice. This would permit the surgeon to follow the unaltered local spread of the tumor and to specifically determine the areas from which he probably failed to remove all of the growth, as at the cribriform plate, pterygoid muscles, infratemporal region, orbital roof and sphenoid sinus. He could then direct the radiotherapist to these special areas and likewise present him with an open, exposed surface for treatment in place of the previously hidden bone-enclosed cavity. More efficient radiation with minimal complications can thus be administered, cutting down on the degree of morbidity and shortening the treatment period. Patients so treated are more comfortable and the primary combined treatment period is only one and a half to three months, as against six to nine months with primary radiation methods.

USE OF CAUTERY

The use of the cautery as a surgical tool is shunned for two very good reasons. In the first place, the cautery destroys the outlines of the tumor so that the exact extent of the lesion cannot be visualized. Hence the surgeon cannot intelligently perform an operation which will only encompass the lesion itself; nor is he in a position to advise the radiologist as to where, if at all, he failed to completely eradicate the tumor. Cooked tumor tissue and cooked normal tissues look alike. In the limited surgical field in such operations the surgeon is never sure, in advance, as to how much tissue he will have to remove. He may begin with a limited cheek flap and then decide to remove the maxilla. In following the tumor, he may find it necessary to extend the incision below the lower lid of the eye or around both lids to exenterate the orbit. If the tissues have been altered by previous treatment the surgeon cannot determine whether the posterior ethmoidal involvement represents tumor invasion or inflammatory edema, hence cannot decide whether or not the orbit needs be exenterated because of retro-ocular invasion. He has to determine whether the tumor is invading the infratemporal space or the pterygoid muscles, because in the former instance he would remove the malar bone, in the latter, the mandible. He may wish to decide whether or not the exposed surfaces are sufficiently free of tumor to permit the application of a split graft to the denuded area, thus materially improving the result of operation and reducing the period of convalescence. The use of the cautery prevents such evaluation and forces the surgeon to remove a predetermined mass of tissue which may prove to be too little or unnecessarily mutilating. A second contraindication for the use of the cautery is the destruction with secondary sloughing and sequestration of the remaining tissues, which results in an unnecessarily severe and prolonged period of convalescence. For the same reason, the change in tissue structure caused by cautery may mask early recurrences. About the only virtue of cautery is the hemostatic effect, but hemostasis can be more satisfactorily obtained by arterial ligation.

HISTOPATHOLOGIC FACTORS

Successful management of cancer involving the paranasal sinuses and nasal cavity depends upon early detection, histopathologic determinations, the extent of the disease, and the proper application of the indicated procedures. Histopathologic factors will determine the choice of therapy. If the lesion is lymphosarcoma, plasmacytoma, highly undifferentiated carcinoma, or so-called "reserve cell" carcinoma, small doses of x-ray will often result in at least temporary regression of the tumor with a minimum of deformity or complications. Malignant melanoma and osteogenic sarcoma, on the other hand, are strictly surgical problems. In about 99 per cent of cases the lesion is epithelial carcinoma—adenocarcinoma in 9 per cent of cases and epidermoid or squamous carcinoma in 90 per cent. Adenocarcinoma originates in the accessory salivary gland in most instances. Postoperative radiation probably will not be used in cases of adenocarcinoma, first because the lesion is relatively radioresistant and secondly because it is usually encapsulated and can more certainly be completely removed. Epidermoid or squamous carcinoma is infiltrative, and most of the failures in treatment and the greatest controversy as to management are related to lesions of this type. It is for tumors of this classification that primary radical operation (with postoperative radiation if indicated for residual disease) is recommended.

RESULTS OF TREATMENT

Fifty-one patients were treated for cancer of the nasal cavity or paranasal sinuses in the period 1944-50. In eight cases the growth was confined to the nasal cavity. Although the elapsed time is too short for end-result analysis, this presentation reveals the improved immediate results that can be expected from the application of radical operation as the primary procedure in the treatment of these cases.

In 23 of 43 cases of antral cancer the lesion was so advanced that exenteration of the orbit as well as excision of the maxilla was necessary. In one case bilateral excision of the maxilla was carried out, and in three the vertical ramus of the mandible was excised. There were three postoperative deaths, one

caused by cerebral anoxia because of plugging of the endotracheal tube, another by meningitis following removal of the tumor invading the cribriform plate, and a third by coronary thrombosis on the seventh postoperative day. Three patients died of other causes, apparently free of cancer. Seventeen died of cancer after survival of six months to three years postoperatively. Three were alive but had cancer at the time of this report.

Seventeen patients were still alive, free of cancer, six months to four years after treatment. One of the three-year survivors had had primary radiation and two limited surgical procedures in a period of six months before he was first observed by the author. Combined maxillary excision and orbit exenteration then was carried out and, seven months later, a radical dissection for metastatic cervical node cancer. At last report the patient has been gainfully employed and meeting the public without discomfort or disease for two years.

Although 23 of the 43 patients were considered incurable and beyond hope because of the orbital involvement, eight of them were still alive and free of disease after periods ranging from ten months up to almost four years. The author knows of no other combination of treatment which could have been offered these patients with cure as an objective.

Because of tumor invasion of the base of the skull, especially in the region of the cribriform plate, there was leakage of cerebrospinal fluid during operation in four cases. One of the patients died postoperatively, and the other three lived only six to eleven months. In nine cases there was extension of the lesion into the pterygoid muscles. In three of them the vertical ramus of the mandible was removed. Seven of the nine patients had postoperative radiation, and four were still alive without evidence of disease at the time of this report.

Metastasis to regional nodes was observed in only four of the 43 cases of antral cancer. One of the four patients was alive without evidence of recurrence two years and ten months after radical neck dissection. One patient died of distant metastases to the liver and lung following bilateral cervical node involvement.

COSMETIC CONSIDERATIONS

An important consideration, of course, is what effect the disfigurement of operation will have upon the patient in social and business relations. A patient who has had exenteration of the orbit need but wear an ordinary eye-patch to make himself quite presentable, while use of a simple dental prosthesis will overcome a palatal defect so that eating and speech are normal. At the same time, the palatal defect can be looked upon as a distinct advantage in that it permits easy, accurate and frequent observation of the involved area so that early detection of controllable recurrence is possible.

300 South Beverly Drive.

REFERENCES

1. Berven, E.: Carcinoma of the antrum; discussion, Proc., 30th Annual Meeting, Amer. Rad. Soc., Chicago, June 1948.

2. del Regato, J. A.: Roentgentherapy in epitheliomas of the maxillary sinus, Surg. Gynec. and Obst., 65:657-665, Nov. 1937.

3. Tod, M. C.: The treatment of carcinoma of the maxillary antrum by radium, Brit. Journal Radiology, 21:270-275, June 1948.

4. Windeyer, B. W.: Carcinoma of the antrum, Proc., 30th Annual Meeting, Amer. Rad. Soc., Chicago, June 1948.

5. Wille, C.: Malignant tumors in the nose and its accessory nasal sinuses, Acta Oto-laryng. (Suppl. 65): 1-58, 1947.

Hysterical Abdominal Distention Simulating Acute Intestinal Obstruction

With Report of a Case

Philip R. Westdahl, M.D., *San Francisco*

SUMMARY

In hysterical abdominal distention the symptoms may so closely simulate those of obstruction of the bowel that needless laparotomy is carried out.

Clues that indicate hysterical distention rather than organic cause are: (1) History of vomiting but without dehydration; (2) complaint of severe pain although temperature, pulse and the number of leukocytes in the blood all are normal; (3) normal tympanic quality of the abdomen; (4) distention out of proportion to the amount of gas observed in x-ray examination; (5) pronounced lordosis caused by thrusting the abdomen forward; and (6) remission of distention when the patient is under general anesthesia.

It must be remembered, however, that even when there is strong suspicion of hysterical cause, distention may actually be due to obstruction. In the case herein reported, obstructive adhesion finally did occur after the patient had had numerous exploratory operations in which the viscera were observed to be normal.

Of the many causes of acute intestinal obstruction, postoperative adhesion is one of the most common. A patient who complains of nausea, vomiting, abdominal pain and obstipation, and who has a distended abdomen with an operative scar, must be assumed to have intestinal obstruction until this is disproved. Delay in operating if obstruction is present may be disastrous. On the other hand, even the most experienced surgeons have occasionally been misled into operating because of symptoms of severe obstruction, only to find the bowel normal and nothing within the abdomen to account for the preoperative appearance.

Hysterical abdominal distention has been known for over a hundred years. The so-called "phantom tumors" and pseudopregnancies are a manifestation of this entity. Alvarez[1] in 1949 published the most recent report on the subject and the reader is referred to his paper for a complete review of the literature and an analysis of the various factors involved in the mechanism of the distention. In that report Alvarez stated: "The pronounced bloating is not due to any excess of gas in the digestive tract but apparently to a contraction of the muscles lining the back and upper end of the abdominal cavity and a relaxation of the muscles of the anterior abdominal wall. These changes, associated often with the assumption of an extremely lordotic posture, tend to throw the abdominal contents forward and somewhat downward toward the pelvis." In support of the hysterical nature of these factors is the observation by many investigators, as far back as 1855,[6,8] that the distention disappears suddenly without the passage of gas when the patient is given a general anesthetic.

Alvarez reported 92 cases of varying severity, but stated that cases in which symptoms resemble those of true intestinal obstruction are rare. Goldschmidt,[5] Christianson,[4] Bargen,[3] and Purves-Stewart,[7] among others, have reported cases simulating obstruction. Bargen's first report in 1931 included five cases at the Mayo Clinic, in one of which there was fecal vomiting for several days; exploration revealed no evidence of obstruction in any of the five cases.

DIAGNOSTIC AIDS

There are several valuable diagnostic clues in distinguishing between hysterical distention and true intestinal obstruction, but in some cases the differentiation may be so difficult that the surgeon is forced to operate in spite of suspicion of hysteria. These clues are manifested by a series of discrepancies. Although patients with hysterical distention give a history of vomiting, perhaps of several days' duration, they are not dehydrated. They may cry and complain so bitterly of abdominal pain and tenderness that the examiner even suspects strangulation and localized peritonitis, yet have normal temperature and pulse and no increase in leukocytes in the blood. In such cases the distended abdomen is not abnormally tympanitic and, most noteworthy of all, the distention is out of proportion to the amount of gas observed in roentgen examination. Because of the tendency for the abdominal contents to be pushed forward and downward by the patient's abnormal posture, most of the gas present may be low in the abdomen or pelvis. The examiner should look for the lumbar lordosis which in some cases is so pronounced that a hand can be easily passed between the bed and the patient's back. A

From the Surgical Service of the Stanford University School of Medicine at the San Francisco City and County Hospital, Department of Public Health.

Read before the San Francisco Surgical Society, January 18, 1950.

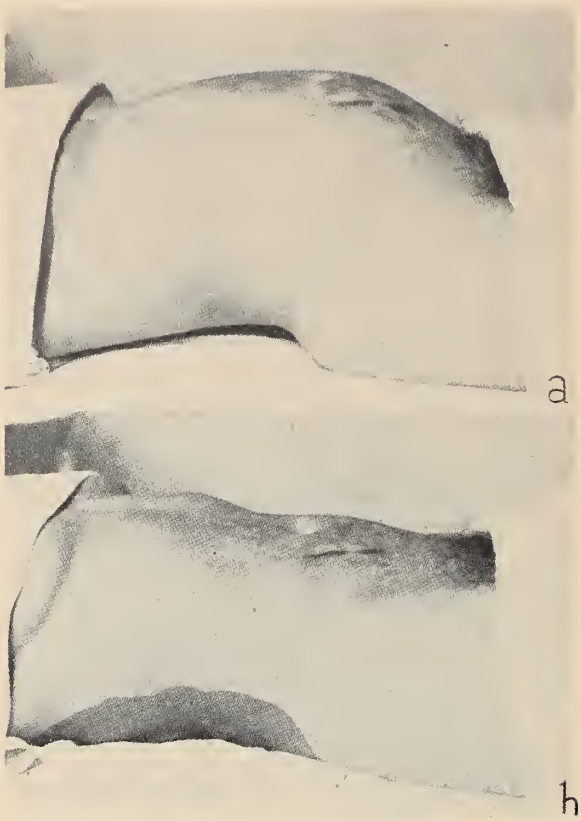


Figure 1.—Photograph of a patient of Bargen showing: *A*, before, and *B*, after induction of splanchnic anesthesia, injection of physiologic saline, injection of thionembutal, and other manipulations which distracted the patient's attention. (From Bargen, Adson, Lundy and Dixon in the American Journal of Digestive Diseases.) The appearance and response of this patient is almost identical to that in the case herein reported.

simple test, reported by Bargen,[3] is to turn the patient on his side and flex him into jack-knife position, overcoming the lordosis, whereupon the apparent distention will usually subside or disappear entirely. Most conclusive of all is the rapid disappearance of the distention, without the passage of gas, upon administration of a general anesthetic. The distention may recur with return to consciousness. Bargen[3] reported relief of distention by a bilateral splanchnic block. He used procaine on one occasion and normal saline on another in the same patient. (Figure 1.) It is important to remember, however, that some patients with hysterical distention may actually have an abnormal amount of gas from some other cause, such as air swallowing; and, even more important, that in some cases true obstruction may be present, particularly if previous abdominal exploration has been carried out.

TREATMENT

Once the diagnosis is established, treatment is largely psychiatric. Operation is definitely contraindicated. Laparotomy, sympathectomy, splanchnicectomy, phrenicotomy, resection of presacral nerves, ileocolostomy and other procedures have been tried and have failed. Gastrointestinal suction and enemas during an attack are of no avail. Lumbar sympathetic and splanchnic nerve blocks may have a psychological value. Drugs such as Pitressin,® Prostigmine® and Etamon® have been of no help. Alvarez,[2] pessimistic about treatment and prognosis, said that most patients with hysterical abdominal distention are incurable because of hysterical temperament, poor insight and lack of desire to cooperate in psychiatric treatment. Many become addicted to narcotics.

CASE REPORT

This report is compiled from letters and personal conversations with most of the physicians who have attended the patient, and from personal observation in 1947 and again in 1949. In view of the fact that the patient has been hospitalized some 20 times and operated upon 12 times with an almost identical episode of pseudo-bowel obstructions on each occasion, no attempt is made to describe the details of each instance; they are summarized in Table 1. The following describes the author's observations.

The patient, a woman 23 years of age at the time of this report, had an appendectomy at the age of 10. In 1944, at the age of 17, a viable male child was delivered by cesarean section. This was followed by three laparotomies in 1945 and a fourth in January of 1946 for what the patient described as bowel obstruction. (These have not been verified.) On April 24, 1946, operation was done in Redding, California, because of progressive abdominal distention, nausea and vomiting. No abnormality was noted. The symptoms remained unchanged postoperatively. On May 11, 1946, exploration was carried out at Stanford University Hospital in San Francisco because of symptoms of intestinal obstruction. No obstruction was observed. The patient returned to the hospital two weeks after discharge with similar symptoms but on this entry the functional nature of the illness was more evident and the patient was treated conservatively. On both entries at Stanford University Hospital the patient complained bitterly of pain and the abdomen appeared to be greatly distended, but there was no significant elevation of temperature or of the number of leukocytes in the blood, and in roentgenograms of the abdomen no significant increase in gas or dilatation of the bowel were observed. In July and August, 1946, laparotomy was done at Fitzsimmons General Hospital. The preoperative diagnosis in each instance was intestinal obstruction. It was noted on these occasions that the abdominal distention disappeared when the patient was anesthetized at the time of operation. Psychiatric interviews during convalescence were of no avail. The patient was hospitalized for similar complaints in January 1947 in Redding, but left the hospital before treatment could be evaluated.

On October 29, 1947, the patient entered San Francisco City and County Hospital with complaint of abdominal cramps and increasing distention for three days. The abdomen was greatly distended and there was generalized tenderness. On this occasion, peristalsis was hyperactive. There was no fever and leukocytes in the blood numbered 10,200 per cu. mm. with 82 per cent neutrophils. A roentgenogram showed only a small amount of gas in the small bowel and gas in the sigmoid colon but no evidence of obstruction. Suction was started with a mercury-weighted tube. Six hours later, although the abdomen still appeared to be distended, in a second roentgenogram (Figure 2) no gas was observed in the small bowel, and there was more gas in the colon but no distention. Leukocytes in the blood numbered 8,900 per cu. mm. and the temperature was 99° F. The patient complained of severe abdominal pain. The diagnosis of volvulus with a closed-loop obstruction was considered and operation was advised but the patient at first refused to consent on the grounds that nothing had been found in previous laparotomies. The next day, however, at the insistence of

Figure 2.—Roentgenogram taken at San Francisco Hospital at the height of the patient's pseudodistention, revealing no significant gas in the bowel.

the surgical staff, she consented to operation. With the patient under spinal anesthesia, laparotomy was carried out. There were remarkably few adhesions and no evidence of dilatation or obstruction of either small or large bowel. The other abdominal viscera were likewise normal. The patient remained in the hospital for five weeks. During most of that time the abdomen remained distended and the patient complained so bitterly of abdominal pain that on one occasion laparotomy was again considered; but in view of the lack of roentgenographic evidence of gas it was deferred. In repeated roentgenograms following barium by mouth and barium enema no evidence of obstruction was observed. No abnormality was observed in proctoscopic examination. A neurogenic basis was suspected, but results of neurological examination and of spinal fluid analysis were normal. Tetraethylammonium chloride was given to block sympathetic control of the colon, but without benefit. Spinal anesthesia, using 100 mg. of procaine crystals in 2 cc. of spinal fluid injected between L_2 and L_3, produced anesthesia to the nipple line but had no effect on the abdominal distention. The patient frequently had over-emotional reactions such as sobbing and crying spells and sudden changes of mood. When it was finally noted that there was pronounced lumbar lordosis and that in spite of the prolonged period of distention the general condition and the nutritional status of the patient remained very good, psychiatric consultation was obtained. Immediately following the interview, the patient demanded to be released. She dressed and walked out of the hospital, appearing to be in excellent health.

In September 1948 the patient was hospitalized in Redding for one week with the usual pronounced abdominal distention and complaint of pain but with normal pulse and temperature. No abnormality was observed roentgenographically. Operation was not done and the symptoms gradually subsided. Again at Redding in December 1948, true obstruction occurred for the first time. On this occasion, the temperature and pulse did rise and fecal vomiting was noted. No immediately preoperative x-ray film was obtained as laparotomy was done in emergency. A small band crossed the ileum, which appeared to be obstructed with injection of adjacent bowel. Recovery was uneventful. Less than a month later the patient entered Washoe General Hospital in Reno, Nevada, with clinical signs of obstruction but no abnormality observed in a roentgenogram. A mercury-weighted tube was passed to the ileum but the distention did not subside after one week. In x-ray examination with barium enema no obstruction was observed. As the patient did not appear to improve, laparotomy was done. The surgeon noted dilation of the cecum and considered the ascending colon to be incompletely rotated and partially obstructed. A right colectomy and ileotransverse colostomy was done. Postoperatively the suction tube emerged through the anus, conclusively ruling out obstruction, but the distention remained. Another episode in March 1949 required hospitalization in Idaho, but due to the neurotic appearance of the patient and a normal roentgenogram, functional distention was diagnosed. When a request for morphine was refused, the patient anxiously left the hospital. Next hospitalized in Elko, Nevada, in July 1949 the patient was spared exploration when the distention suddenly disappeared as general anesthesia was given on the operating table. The distention was also relieved on two subsequent occasions by intravenous injection of Pentothal® and again by ethyl chloride, but each time suddenly recurred when the patient regained consciousness. At St. Mary's Hospital in San Francisco in August 1949 operation was withheld, despite the usual symptoms, because of a normal roentgenogram. The last known laparotomy was September 28, 1949, at Salt Lake County Hospital. The abdomen was described as "surprisingly clear" with two small adhesions but no obstruction. On discharge the patient went to another local hospital, but when the facts of the previous admission were obtained she was discharged. In November the patient returned to Redding and there requested colostomy, which was refused.

COMMENT

The case reported is typical of hysterical abdominal distention closely resembling acute intestinal obstruction. The over-emotional complaint of pain, the apparent abdominal distention out of proportion to the amount of gas observed in roentgenograms, the pronounced lordosis, the absence of systemic signs and of leukocytosis should all be clues to those familiar with this entity. The sudden disappearance of distention with general anesthesia is an extremely helpful diagnostic aid. In the author's own experience with the patient, it was his familiarity with the disastrous outcome of delay in operating in the presence of true obstruction and his lack of familiarity with hysterical distention which made him overlook the proper diagnosis and insist that the patient have another laparotomy. On some occasions the picture was complicated by the appearance of a moderate amount of gas particularly in the large bowel as seen on roentgenograms. This can be accounted for on the basis of air swallowing (the stomach frequently contained air) and by the re-

TABLE 1.—*Summary of Hospital Entries and Operations*

Date	Hospital	Clinical Diagnosis	X-ray Diagnosis	Operation
1937	.....	.....	.....	Appendectomy
1944	.....	.....	.....	Cesarean
Jan. 1945	.....	Intestinal obstruction	.....	Laparotomy
Aug. 1945	.....	Intestinal obstruction	.....	Laparotomy
Oct. 1945	.....	Intestinal obstruction	.....	Laparotomy
Jan. 1946	.....	Intestinal obstruction	.....	Laparotomy
April 21 to 30, 1946	Redding	Intestinal obstruction	No obstruction	No obstruction
May 9 to 25, 1946	Stanford	Intestinal obstruction	No obstruction	No obstruction
May 29 to 31, 1946	Stanford	Abdominal distention	No obstruction	None
July 14, 1946	Fitzsimmons	Intestinal obstruction	No obstruction	No obstruction
Aug. 30, 1946	Fitzsimmons	Intestinal obstruction	No obstruction	No obstruction
Jan. 6 to 7, 1947	Redding	Abdominal distention	No obstruction	None
Oct. 29 to Dec. 8, 1947	S. F. County	Intestinal obstruction	No obstruction	No obstruction
Sept. 2 to 11, 1948	Redding	Abdominal distention	No obstruction	None
Dec. 13, 1948, to Jan. 6, 1949	Redding	Intestinal obstruction	Early obstruction, no preoperative film	Obstruction
Jan. 22 to March 17, 1949	Reno	Intestinal obstruction	No obstruction	No obstruction
March 22 to 24, 1949	Idaho	Abdominal distention	No obstruction	None
July 1949	Elko	Intestinal obstruction	No obstruction	None
Aug. 23 to 27, 1949	St. Mary's	Intestinal obstruction	No obstruction	None
Sept. 27 to Oct. 23, 1949	Salt Lake	Intestinal obstruction	No obstruction	No obstruction
Nov. 1949	Redding	Abdominal distention	No obstruction	None

Stated entries for abdominal distention	19
Stated operations for abdominal distention	12
Verified operations for abdominal distention	8
Verified obstruction	1

peated therapeutic colonic flushes given during the preceding three years, thus interfering with the normal function of the colon. The most important lesson to be learned from this case is that true obstruction can occur in some such cases, as it did once in the present instance. Unless the diagnosis of hysterical abdominal distention can be definitely established and true obstruction ruled out, exploration is mandatory if the patient does not improve.

REFERENCES

1. Alvarez, W. C.: Hysterical type of nongaseous abdominal bloating, Arch. Int. Med., 84:217-245, 1949.

2. Alvarez, W. C.: Personal communication with the author.

3. Bargen, J. A., Adson, A. W., Lundy, J. S., and Dixon, C. F.: Functional abdominal distention simulating megacolon, Am. J. Digest. Dis., 3:17, 1936.

4. Christianson, H. W., and Bargen, J. A.: Functional abdominal distention simulating intestinal obstruction, Proc. Staff Meet., Mayo Clinic, 6:441-448, July 29, 1931.

5. Goldschmidt, cited by Alvarez.[1]

6. Krukenberg, cited by Alvarez.[1]

7. Purves-Stewart, J.: The Diagnosis of Nervous Diseases, ed. 9, Baltimore, Williams and Wilkins Company, 1945, p. 661.

8. Simpson, J. Y.: The Obstetric Memoirs and Contributions, edited by W. O. Priestly and H. R. Storer, Philadelphia, J. B. Lippincott Company, 1855-1856, Volume 1, p. 303.

The Evaluation of Subjective Complaints in Relation to Disability Claims

Willard I. Nesson, M.D., and Packard Thurber, Jr., M.D., *Los Angeles*

SUMMARY

Evaluating subjective complaints with regard to claims for disability compensation often is extremely difficult. The aim is fairness to the injured person and the insurance carrier. As the physician is the best source of information, he must make careful, unbiased observation of certain factors which will aid in arriving at a sound appraisal.

In the state of California, under the rulings of the Industrial Accident Commission, subjective complaints, including weakness of grip in the hands, are ratable conditions with regard to disability claims. The Permanent Disability Rating Bureau of the Industrial Accident Commission considers definite factors regarding these subjective complaints in order to arrive at the proper percentage of permanent disability which they represent. Therefore it is of utmost importance that the medical examiner properly describe these factors so that the Permanent Disability Rating Bureau is in possession of the correct picture of the condition. It is recognized by all concerned that in many cases it is extremely difficult to arrive at the true value of subjective complaints. This presentation deals primarily with the consideration of the factors generally used by the Permanent Disability Rating Bureau in evaluating them. In many cases it is not only a matter of the determination of the true degree of disability entailed in the subjective complaints *per se;* preexisting or coincidental factors may further complicate the problem and they must be properly evaluated. Even though the medical examiner believes he is unable to reach an exact appraisal of a given set of symptoms, nevertheless, it is definitely a medical problem, and the examiner, therefore, is the best source of information. In the final analysis, what is sought is fairness to the injured person and to the insurance carrier. Therefore, the medical examiner should consider the facts without bias and use reasonable judgment to arrive at conclusions.

It is important to have periodic check-up examinations of injured persons in all cases in which permanent disability is anticipated, and to report the results. These progress reports will permit the insurance carrier to properly allocate reserves for compensation and medical expense, and to revise them as the patient's condition changes. Also the chronologic record of the subjective complaints will assist in evaluating them.

A subjective complaint is one which is made by the patient of a condition perceivable only by him and is not evident to the examiner—for example, pain. Tenderness in a well healed amputation stump is purely a subjective complaint. This complaint and many subjective complaints challenge the doctor to establish a reason for their presence. In some cases it may be necessary to use the various tests for malingering. It is important to have a running record of the patient's complaints, including notes on the character, degree, frequency, and location of the conditions complained of, as well as joint function, and girth measurements. These factors need to be known and evaluated for permanent disability reasons. In all cases of subjective complaints, the physician should formulate an opinion as to how the conditions complained of affect the patient in his work: Are they a handicap, and if so, how much of a handicap? Also, there should be an evaluation of any preexisting conditions which could be contributory.

There are a multitude of subjective complaints such as of pain, tenderness, sensory changes, weakness, insecurity, instability, stiffness, coldness, clamminess, nervousness, worry, dizziness, ringing or buzzing in the ears, loss of smell, loss of sight, loss of hearing, and fatigue.

Pain. Pain cannot occur without sufficient stimulus on the pain receptor nerve endings or fibers. There are three types of stimuli capable of producing pain. First, mechanical, such as pressure from swelling or muscle spasm, or other abnormal stresses. Second, chemical stimuli. Third, thermal stimuli—heat or cold. There are various degrees of pain, and the degrees have been established to be: Slight, which is up to one-third of total pain; moderate, from one-third to two-thirds of total pain; and pronounced or severe, more than two-thirds of total pain. The examining physician, with the cooperation of the patient, will be able to define the degree of pain in one of the three categories, and also to establish the character of the pain, its frequency, and location. It should be noted how often and when the pain occurs, and, if it is constant, whether the degree varies. In location of pain, it should be known whether it is present on motion of a joint, and at what point in motion it occurs. Factors which aggravate or relieve pain should be taken into consideration. The examiner should evaluate the patient's threshold of pain, and express his opinion as to how the pain affects the patient at his work. It must be determined whether or not the pain is consistent with the patient's injury. Also pre-

existing contributory conditions should be considered. The examiner should formulate an opinion as to whether the pain in any way disables or handicaps the patient for his particular occupation, and, if so, to what extent.

The degree and duration of pain should be directly related to the type and extent of trauma. In the acute stages of trauma, whether it be contusion, laceration, or fracture, the objective observation of abnormal conditions should account for the subjective symptoms. The later complaints of pain and other subjective symptoms after the acute stage has long subsided are the ones which must be dealt with specifically in permanent disability rating. For example, in a fracture which has involved a joint space, pain will usually increase with use, and may become worse with weather changes. Fracture into a joint involves cartilage, and cartilage has a relatively poor blood supply, so that a longer period for healing, more subjective symptoms, and longer disability are reasonable. The disturbance of cartilage gives reason for pain when motion, weight bearing, or other stress is applied through the joint. As a result of pain, usually there are important secondary conditions in other parts of the extremity involved, the extent usually depending upon the degree of pain. Prolonged pain of practical degree should cause the injured person to "favor" the extremity, and this should result in measurable atrophy from improper use of muscles. For the same reason, stiffness can also be indirectly responsible for muscle atrophy.

The location of a fracture has a direct bearing upon complaints of pain. If a fracture has involved a weight-bearing bone such as a metatarsal, for example, and especially if there is plantar angulation of the fracture, complaint of pain is not unreasonable.

If there is complaint of pain after normal healing of a superficial skin laceration, the legitimacy of the complaint should be questioned. On the other hand, deep lacerations through the skin and underlying tissues such as nerves, fascia, and muscle may establish some foundation for complaints of pain as well as for other subjective symptoms. Severed nerves, as in amputations, can give rise to painful neuromas, or nerve filaments can be involved in a scar and cause pain.

Pain may be referred from one part to another, but it should follow the physiological nerve pattern, or fit a known pain pattern, as heart pain which may involve the left arm.

The complaints of hyperesthesia, hypesthesia, and paresthesia should be determined as to degree—slight, moderate, or severe. When a patient complains of sensory changes, it must be remembered that there is spinal cord segmental distribution, and peripheral nerve distribution. Each has a quite definite and different anatomical pattern.

Numbness. The authenticity of a complaint of numbness encircling a whole part, as a leg or an arm, known as stocking and glove anesthesia, should be questioned in that it is not compatible with anatomical nerve patterns. Stocking or glove anesthesia usually extends as high on the limb as the site of injury.

Bizarre sensations may occur during the healing of a sutured nerve. Perhaps 12 to 18 months should be allowed to pass before the condition of a nerve involved in trauma should be considered static.

There are objective findings to aid in the substantiation of sensory complaints. If normal nervous energy is interrupted, coldness, clamminess, glossiness, and other trophic changes may be noted.

Stiffness. In appraising stiffness, the nature and extent of trauma are important factors. Long immobilization such as may occur in treatment, insufficiency of physical therapy, and contracture of scars are factors inducive to stiffness. Preexisting arthritis may either complicate or be the reason for the stiffness.

Weakness. Weakness, insecurity, and instability of a joint may be caused by paralyzed muscles, ruptured joint ligaments, "favoring" of an extremity, whether due to pain, stiffness, or for no known reason. Following internal derangement of a knee, the thigh muscles will usually lose normal tone in 72 hours or less. The atrophy can be overcome, after removal of the underlying cause, through muscle exercise, providing no other pathologic condition is present. Return of muscles to normal size and tone will reduce to a minimum the disability of weakness and instability.

Amputation, stiffness of fingers, and loss of muscle power are some of the factors in loss of grip. The setting of the forearm muscles normally places the clenched hand in dorsiflexion, the position of maximum grip. Dynamometer readings obtained by having the patient squeeze the dynamometer with the hand in palmar flexion should be less than readings obtained with the normal position of dorsiflexion.

If there are subjective complaints of dizziness, ringing in the ears, loss of hearing, blindness, nervousness, and fatigue, the examining physician should determine whether not they are consistent with the injury. It should be established how and to what extent they affect the patient in his work, and when and how often these complaints occur. Examination of the patient by a consultant in the particular field in which the subjective complaint falls may be indicated. Application of various tests for malingering may be advisable.

111 West Seventh Street.

The Precipitation of Clinical Poliomyelitis by Injections

L. S. Goerke, M.D., *Los Angeles*

SUMMARY

In records of 1,321 cases of poliomyelitis in the city of Los Angeles in 1948, notation was made as to whether or not the patient had been vaccinated against smallpox or had received an injection of one kind or another in the period preceding the onset of poliomyelitis.

In children under 12 years of age, the incidence of poliomyelitis was slightly higher among those who had had recent vaccination or injection than among those who had not, and the incidence of paralysis was slightly greater also. However, the disparities were not considered statistically significant. They were not wide enough to warrant withholding immunization against other serious diseases on the strength of the possibility that in so doing a slight reduction in the incidence of crippling poliomyelitis might be effected.

THE published reports[1, 3, 4] from Australia, England and Canada which are now being quoted in American literature inferring that immunizations and other equally mild traumatic procedures precipitate clinical poliomyelitis are causing concern to physicians interested in preventive medicine.

McCloskey[4] reported that in 33 of 340 cases of poliomyelitis investigated in Victoria in 1949 the patients had received injections of pertussis vaccine, diphtheria toxoid, or typhoid-paratyphoid vaccine within 60 days preceding the onset of the disease. In 30 of these cases the injections had been given within 30 days of onset—between seven and fourteen days preceding the disease in 21 cases. There was a tendency for localization of the paralysis in the extremity in which the injection had been given. Other reports[2, 5] tend to support these observations.

The possibility of vaccination's precipitating paralytic poliomyelitis was called to the author's attention in 1947 by Dr. Kenneth Sutherland, assistant health officer, Los Angeles County Health Department. He had observed three cases in which poliomyelitis developed within two weeks following smallpox vaccination with primary reactions. In all three cases, paralysis developed in the arm vaccinated. The three patients were members of one family. As a result of this observation Dr. Sutherland elected to delay the Los Angeles County school vaccination and immunization program in 1948. Los Angeles City Health Department officials decided to proceed as usual with the immunization program in schools within the city: 42,635 school children were immunized and 19,515 were vaccinated during the year, and 21,105 children (41,999 injections) were immunized and vaccinated in child health conferences.

A detailed epidemiological record was maintained on all cases of poliomyelitis reported in the city of Los Angeles during 1948 and 1949. The information was obtained from the patient or the parents of the patient at the time of illness or shortly thereafter. In Los Angeles, poliomyelitis occurs every month of the year, with low incidence in April and peak incidence in August or September. In 1948 the number of cases of poliomyelitis was the highest ever recorded in the city and the per capita incidence was the second highest. The incidence of the disease in relation to preceding injections and vaccinations is shown in Table 1.

Of the 1,321 cases in 1948, 30 occurred within 34 days after an injection of some kind. The average time interval between the injection and the onset of poliomyelitis was ten days with a range of zero to 34 days. In only one case was the interval more than 25 days. In 18 cases onset was within ten days of injection. One patient had paralysis only in the extremity receiving the injection; seven had paraly-

Director, Bureau of Medical Services, Los Angeles City Health Department, George M. Uhl, M.D., Health Officer.

Table 1.—*Poliomyelitis Cases Following Injections, by Months, 1948*
(Los Angeles City Health Department)

Month of Onset of Poliomyelitis	Cases				Known Injections and Vaccinations
	Total	Paralytic	Following Injection	Paralytic Following Injection	
January	1	1	0	0	4,236
February	1	0	0	0	5,407
March	6	5	0	0	9,541
April	3	3	0	0	9,131
May	22	19	0	0	9,064
June	45	29	2	1	3,470
July	198	133	2	1	3,587
August	286	208	4	2	3,867
September	334	234	7	6	3,620
October	221	164	8	7	15,719
November	148	124	7	7	22,804
December	56	45	0	0	13,703
Total	1,321	965 (73%)	30	24 (80%)	104,149

TABLE 2.—*Analysis of Paralysis in Poliomyelitis Which Occurred Within 34 Days of Injection*

	1948	1949
Paralysis or weakness in immunized extremity only	1	1
Paralysis or weakness both in extremity immunized and in other muscle groups	7	0
Paralysis or weakness in other extremities or muscle groups only	8	1
Paralysis with site of injection not reliably known	8	0
No paralysis	6	1
Total with history of injection	30	3

sis or weakness in the extremity or muscle group receiving the injection and in other muscle groups; eight had involvement of muscle groups unrelated to the site of injection; in six cases there was no paralysis. In eight instances the site of the injection could not be reliably identified. In the latter group, four patients had paralysis of the left arm following injection of diphtheria toxoid or combined diphtheria-pertussis-tetanus toxoids, one had paralysis of the lower extremities following a lumbar puncture, one had paralysis of the right hand and right lower extremity following intramuscular "menstrual shots," one had paralysis of the left arm following injection of an unidentified substance for an unknown reason, and one had bulbar paralysis following injection of penicillin.

The kinds of vaccination or injection in the 30 cases in which poliomyelitis followed these procedures were: Nine diphtheria toxoid, four tetanus toxoid, six diphtheria-pertussis-tetanus, one smallpox, six penicillin, one spinal puncture, one antiallergic, one "menstrual shot" and one unknown.

The median age of the 30 patients with poliomyelitis following injection was 5 years. The median age in the total of 1,321 cases was 7 years. Seventeen of the patients in the group of 30 were males and 13 were females, with the males younger and the females older than the median of the study group.

The number of cases following injections increased in the same proportion as all cases increased during the summer. This would be expected on chance alone. Paralysis occurred in 77.8 per cent of the recently immunized patients, against 74.3 per cent of all patients. The difference is not statistically significant. The validity of comparison of other items in Table 3 is unknown.

In 1949 there were 446 cases of poliomyelitis in which there was information as to whether or not there had been injection within 30 days of onset. Only three patients had a history of injection. One had paralysis or weakness in the injected extremity only, one had paralysis or weakness in a muscle group other than that at the site of injection, and one did not have paralysis.

Although there has been a steady decline during the last 25 years in morbidity and mortality from the major communicable diseases, except poliomyelitis, there were in Los Angeles during this time, 16,110 cases of diphtheria with 1,015 deaths, 34,948 reported cases of pertussis with 652 deaths, and 385 cases of tetanus with 221 deaths—a combined total of 51,443 cases and 1,888 deaths from three diseases (Table 4) which can be practically eliminated through universal use of immunization. As there were, in the same period, 6,527 cases of poliomyelitis with 380 deaths, it appears inadvisable to permit the possible chance occurrence of poliomyelitis following injections to interfere with the continued mass elimination of diseases equally crippling and fatal.

TABLE 4.—*Diphtheria, Tetanus and Pertussis Cases and Deaths Compared With Poliomyelitis Cases and Deaths, Five-Year Periods 1925-1949*
(Los Angeles City)

	Diphtheria, Tetanus, Pertussis		Poliomyelitis	
	Cases	Deaths	Cases	Deaths
1925-29	13,392	674	418	79
1930-34	13,951	583	1,866	91
1935-39	11,031	358	707	58
1940-44	8,143	161	721	40
1945-49	4,926	112	2,815	112
Total	51,443	1,888	6,527	380

REFERENCES

1. Geffen, D. B.: The incidence of paralysis occurring in London children within four weeks after immunization, M. Officer, 83:137-140, April 8, 1950.

2. Hill, A. B., and Knowelden, J.: Inoculation and poliomyelitis; a statistical investigation in England and Wales in 1949, Brit. M. J., 2:1-6, July 1, 1950.

3. Martin, J. K.: Local paralysis in children after injections, Arch. Dis. Childhood, 25:1-14, March 1950.

4. McCloskey, B. P.: The relation of prophylactic inoculations to onset of poliomyelitis, Lancet, 1:659-663, April 8, 1950.

5. Science News Letter, 58:85, August 5, 1950: News Report of Sixth International Congress of Pediatrics in Zurich, Switzerland.

TABLE 3.—*Poliomyelitis Cases Per Cent of Immunized* and of Total Population Under 12 Years of Age*

	1948 Jan.-Dec. (12 Mo.)	1948 July-Nov. (5 Mo.)		1948 Jan.-Dec. (12 Mo.)	1948 July-Nov. (5 Mo.)
Population immunized or vaccinated	83,255	40,826	Estimated population	318,000	322,000
Number of cases in group	27	25	Number of cases	843	759
Incidence of disease	0.032%	0.061%	Incidence of disease	0.026%	0.056%
Number paralytic	21	20	Number paralytic	626	560
Incidence of paralytic cases	0.025%	0.049%	Incidence of paralytic cases	0.019%	0.042%
Paralysis in group with disease	77.8%	80.0%	Paralysis in group with disease	74.3%	73.8%

*By Los Angeles City Health Department.

Legal Duties of Physicians

Andrew A. Sandor, M.D., LL.B., *Alhambra*

SUMMARY

The history of the physician's legal duties has been traced from the first recorded writings of the Babylonian era to the present day. There has been a transition from the days of absolute liability to the modern idea of liability based on culpability.

The doctrine of stare decisis developed in early English law forms the very backbone of our own jurisprudence.

Broadly, if a physician renders reasonable care and skill, he is absolved from liability.

Some of the more important legal duties and proscriptions applying to physicians are discussed in particular in this presentation.

THE concept that a physician owes a legal obligation to his patient is not new.[1] Writings on medical jurisprudence go back at least 4,000 years. About 2030 B.C. the Code of Hammurabi, the Babylonian, was enacted. One of the provisions found therein states: "If the doctor has treated a gentleman for a severe wound with a lancet of bronze and has caused the gentleman to die, or has opened the abscess of the eye for a gentleman with the bronze lancet and has caused the loss of the gentleman's eye, one shall cut off his hands." However, if the patient were a mere slave, and his life was lost because of the surgeon's treatment, then the physician had but to furnish the master with another slave. The penalty imposed upon a physician bore a direct relationship to the patient's standing in the community. The physician of those days was held to be an insurer of his treatment. He practiced at his peril and paid a penalty if he failed in his trust; there existed absolute liability, and no extenuating circumstances were allowed to be pleaded by the physician in his behalf.

The first departure from these very harsh rules of the Babylonians, that a physician must practice at his peril, is found in the later rules of the Egyptians. Here, general rules were established and approved by the most learned and experienced physicians for the conduct of the physician in relations with his patient. As long as the physician followed established treatments for a disease, even if the result were unfavorable to the patient, the physician was absolved from any liability. But if he departed from the established procedure, and the patient had the misfortune to die, the physician was liable to be beheaded. Experimentation is still held in disfavor by the law today, and many a judgment has been rendered against a physician in a malpractice action based on treatment with untried drugs and methods.

Following the Egyptian era came the time of Hippocrates, whose influence dates from about 400 B.C. It is generally conceded that the practice of medicine as a science dates from this period; yet the medical writings of that day contain no references to the physician's conduct in relations with patients. As far as can be determined, the Greeks had no laws concerning malpractice. But there must have been some recognition that a physician owed a duty to his patient, for Plutarch, in his "Lives of Illustrious Men," tells the story of Glaucus, a physician of Ephesus, who left his patient to go to the theatre. In his absence the patient partook excessively of food and died; and Alexander condemned the physician to death for breach of professional duty.

During the Dark Ages (476-1000) the Church instituted a long series of edicts which were primarily aimed at malpractice by the monks.

INFLUENCE OF ROMAN LAW

In the early Roman law are records indicating that negligent conduct by the physician was used as a measure of legal liability. Smith[1] listed the following dicta which emanated from the Roman courts:

1. That a physician incurred a legal liability when he was guilty of negligence.

2. That this negligence could consist of misfeasance or nonfeasance, which arose from ignorance due to lack of adequate training, lack of skill in the particular undertaking, or failure to attend or to care for the patient after a properly performed operation.

3. That if a physician caused injury by an unauthorized operation, he could be held for battery.

4. That no responsibility for medical practice exists, without proof of fault.

The Roman law as it expanded was introduced into continental Europe about 1200 A.D. and became the basis of medical jurisprudence throughout Europe. A law for the regulation of the practice of medicine, which included drug control, was promulgated in 1240 by the Emperor Frederick II. To Germany belongs the credit of enacting the first law which provided for the examination of medical witnesses in the determination of questions in which medical knowledge could afford the only satisfying answers. This was in 1532, during the reign of Emperor Charles V, when a law was passed which provided that in every case of violent death, the opinion of medical men should be formally taken. Thus there came to be developed definite standards by which to judge the knowledge and skill of a physi-

cian. The physician came to be held responsible not only for intentional injuries but for negligence of ability which the person employing his services rightfully could presuppose him to have.

After the Norman conquest in 1066 came the development of the English common law, which to this day is the basis of our own jurisprudence. Instead of definite fixed rules, the common law, as it developed, was a flexible system which adapted itself to conditions as they arose. When a question arose for which there was no applicable custom or precedent, the judges would decide according to their ideas of right and justice. During the reign of Richard Coeur de Lion at the close of the twelfth century, it became the practice to keep an official record of the cases decided by the courts of common law. They were known as the Plea Rolls, and they have been maintained in an unbroken series down to the present. From the Plea Rolls there developed a body of recorded decisions. Such decisions were usually followed as precedents in subsequent similar cases, and there was developed the doctrine of *stare decisis*—that a decision of one of the higher courts has the force of law and is binding in all like future cases. One of the most striking features of the English common law is this adherence to precedent. These precedents control the litigated question, and if a court departs from them it is likely to have its findings set aside. When a novel question, for which there is no precedent, arises in a state court, then the court will look to the precedents of a sister state for its decision on a like question.

Smith,[1] in his studies of the development of malpractice, stated that the precedent for all malpractice actions had its origin in the year 1615. This occurred in the case of *Everard v. Hopkins*, and the historical precedent which adheres to this date was laid down by Sir Edward Coke, "father of the common law" and at that time Chief Justice of the Court of King's Bench. This was an action against a physician for negligence, separate and apart from any contractual relation. The plaintiff's master had employed a physician to treat his servant who was injured by a cartwheel. No contract was entered into between the physician and his patient. The doctor employed "unwholesome medicine" which caused the servant to become more ill. Lord Coke said that the master, of course, could maintain an action upon the contract; the servant, however, not being a party to the agreement, could not sue thereon, but could have an action upon the case for the damage done by the treatment.

From the foregoing discussion, it can be readily appreciated that a legal obligation devolved upon the physician because of the universal demands put forward by society for its own protection. These demands have become more and more exacting with the development of medicine, and have reached their present-day status with the universal requirement that medical licensure is a condition precedent to the practice of medicine throughout the entire civilized world.

NATURE OF THE PHYSICIAN-PATIENT RELATIONSHIP

Before proceeding with the discussion of the physician's legal obligations, it would be well first to determine when a relationship comes to exist between a physician and a patient, for it is easily understandable that if a physician has no legal duty owing to a patient, he cannot be negligent toward that patient. This is best illustrated in the so-called good Samaritan situation: For instance, a physician traveling along the highway comes upon the scene of a severe automobile accident and sees several badly injured persons. The physician owes no legal duty to render aid to the injured persons, although he may have a moral duty to do so. If, because he does not give them first aid, their injuries are aggravated, the physician cannot be held liable. But once the physician does give medical aid, he then assumes a duty to the patient, and will be liable for any negligent conduct which might ensue; and it would be no defense to the physician that such services were rendered gratuitously.

Once having established a contractual relationship with the patient, the physician is duty bound to maintain his contract. Illustrative of this is the case of *Hood v. Moffet*[2] in which a husband engaged the services of an obstetrician for a stipulated fee. The patient was near term, and at the time the contract was made the physician had not as yet seen the patient. When the patient went into labor, the husband sent for the physician who refused to come because he was in attendance on another patient who was about to deliver. The court held that the plaintiff had a cause of action for breach of contract, and rejected the physician's excuse, stating that if one assumes conflicting obligations to two different persons he cannot exonerate himself from liability for breach of one of the obligations by choosing to discharge the other.

It should be noted, however, that it is becoming increasingly evident that the refusal of a physician to enter into a contractual relationship with a patient may constitute a tort. Under the statutes of the various states a physician has no right to refuse assistance to one in urgent need of medical care.[3] The ambit of legal liability of the physician is ever extending.

STANDARD OF CARE REQUIRED

When a physician undertakes the treatment of a patient, he impliedly contracts and represents not only that he possesses the reasonable degree of skill and learning possessed by others of his profession in the locality, but that he will use reasonable and ordinary care and skill in the application of such knowledge to accomplish the purpose for which he is employed; and if injury is caused by a want of such skill or care on his part, he is liable for the consequences which follow.[4]

And it also has been held that if a physician undertakes to treat the patient as a specialist in the

treatment of a certain organ, injury or disease, he is bound to bring to the aid of one so employing him, that degree of skill and knowledge which is ordinarily possessed by those in the same general locality who devote special study and attention to that particular organ, injury or disease, its diagnosis and its treatment, having regard to the state of scientific knowledge at the time.[5]

By "reasonable and ordinary care" is meant also that the physician will use all modern diagnostic aids which are available for use by the physician. Claims arising out of the non-use of x-ray examination form one of the largest and most important group of cases under malpractice actions. The trend of decisions coming from the higher courts seems to point to a growing attitude that the courts will take judicial notice, without proof, that omitting to make use of x-ray examination as a diagnostic aid in cases of fracture constitutes malpractice.

Illustrative of this is the case of *Johnston v. A. C. White Lumber Co.*[6] The Idaho statute under which action was brought requires an employer to furnish an employee with all reasonable medical and surgical care. The court in construing the statute said that reasonable care contemplates the use of all modern diagnostic aids, and held the employer liable when the company physician omitted to use x-ray examination in the diagnosis of an injury to an employee.

Obviously it is advisable for a physician to learn what some of the legal obligations are which he assumes. In a subject so vast it would be almost impossible to list all the legal duties of the physician in the limited scope of this presentation, and the reader is referred to the treatise of Regan[7] for a most complete discussion of this question. An attempt will be made to list and discuss some of the more important duties, and to illustrate them with actual cases.

DUTY TO KEEP ABREAST OF ADVANCES OF MEDICAL SCIENCE

A physician is legally obligated to keep abreast of the advances made by his profession.

In *Vigneault v. Dr. Hewson Dental Co.*, the defendant dentist in preparation for the extraction of teeth used multiple injections of a local anesthetic agent. Following the extraction osteomyelitis of the jaw developed. Evidence was permitted to be introduced that the block method of injection was then being currently used, and that the possibility of osteomyelitis was much less by this "advanced method." The defendant was held to be negligent in not keeping abreast of the developments in his profession.[8]

In *Ferrell v. Ellis*, the defendant physician attempted to disclaim liability for negligence on the ground that all country physicians know no better. The court held that the standard of care is based on present conditions of medical knowledge and not on past conditions acquiesced in by country folk.[9]

DUTY NOT TO REVEAL CONFIDENTIAL INFORMATION

A physician is under legal obligation not to reveal any confidential information imparted to him under the physician-patient relationship. In fact, many of the states have made such a violation a statutory offense. The New York statute reads: "A person duly authorized to practice physic or surgery shall not be allowed to disclose any information which he acquired in attending a patient in a professional capacity, and which was necessary to enable him to act in that capacity."

If a physician, under a mistaken diagnosis, publicizes that a patient of his has a venereal disease, such an act is slander *per se*, and the patient need not offer any proof of special damage since the law presumes that one suffered damages simply by the publication of such a diagnosis.[10]

DUTY TO OBTAIN CONSENT FOR SURGICAL OPERATION

A physician has a legal duty to obtain the consent of the patient before attempting surgical treatment, and in the case of a minor the parents' consent must first be obtained.

In *Hivey v. Higgs*, the patient consulted the defendant physician, who advised the plaintiff that it was necessary for her to have an operation performed upon the septum of her nose, and the plaintiff then and there employed the doctor to perform the operation. While the patient was under anesthetic the physician, instead of operating upon the septum of the plaintiff's nose, removed the patient's tonsils. The court held that the physician had no such authority to operate, and that his wrongful act constituted assault and battery, although the physician in his defense contended that he merely committed a breach of contract, and therefore the plaintiff should recover only nominal damages.[11]

In *Mohr v. Williams*, the patient consented to an operation upon his right ear, and the surgeon, finding a similar condition in the other ear, operated upon that one too. The court said, in finding for the patient, that where one consents to an operation on the right ear, the physician has no privilege to operate on the left ear, regardless of the necessity of such operation, unless such operation is necessary to save the life of the patient.[12]

It has even been held that the performance of an unauthorized autopsy is an interference with one's property rights.[13] The common law has always been that a corpse is personal property belonging to the decedent's family, and that any interference by one person with another's personal property is a tort.

DUTY TO EXERCISE THE UTMOST OF GOOD FAITH AT ALL TIMES

The physician-patient relationship is in the nature of a trust, the patient being the beneficiary and the physician the trustee. The courts have always zealously guarded the rights of the beneficiary and have demanded that the trustee discharge his duties with the utmost of good faith. The law demands that the physician act in the same capacity and will not

tolerate the practice of fraud and deceit on the patient.

In *Moses v. Miller*, the defendant physician undertook to remove the plaintiff's gallbladder. During the course of operation, the physician for some reason abandoned the operation. The physician, however, informed the patient that he did remove her gallbladder. The fraud was discovered during a subsequent abdominal operation some years later. The patient was allowed to recover damages for this fraudulent concealment by the physician that he had not removed the gallbladder.[14]

In another action involving the practice of fraud on the rights of the health of the patient, the plaintiff was allowed recovery. Here the defendant physician knew that his treatment could be of no benefit, and yet he induced the patient to continue with the treatment and thus to incur a large bill by assurances that the treatment was well suited to effecting a cure.[15]

In *Tompkins v. Board of Regents* of University of New York, the physician prescribed narcotic drugs for addicts without proper medical basis, solely to satisfy the addiction. This was held to constitute "fraud and deceit" in the practice of medicine and to justify suspension of the physician's license under the New York statute. The court of appeals, in affirming the lower court, said that issuing a prescription for narcotic drugs to an addict tends to deceive those concerned in enforcing narcotic drug laws.[16] Thus, by statute, the physician owes a duty to the public, and the violation of a statute affecting the public welfare constitutes a crime, a much more serious offense than a tort, which is concerned only with the violation of a private right.

LEGAL DUTY TO RENDER SERVICE

After the physician-patient relation has been established, unless otherwise limited in the contract of employment, it cannot be terminated at the mere will of the physician, but must last until the treatment is no longer required, or until it is dissolved by the mutual assent of the parties, or until reasonable notice is given in order that the patient may have an opportunity to engage the services of another physician.[17]

In *Tadlock v. Lloyd* the plaintiff employed the physician to attend his sick child. The physician examined the patient and diagnosed the illness as scarlet fever. The following day the physician was requested to call and see the child again, and he did not do so, making the statement that the disease must run its course. Subsequently several other requests were made to the doctor to call on the patient. Finally, in response to an urgent appeal, he did visit the patient. The child died shortly after his arrival. The action here was not founded upon active malpractice but upon negligence of proper care and attention. The omission of the physician's legal duty was the proximate cause of the death of the child. The court said that when a physician makes no effort to inform himself of the condition of his patient, or of the progress of the malady, if damage results therefrom, the physician is liable.[18]

DUTY NOT TO EXPERIMENT

It is a physician's legal duty to follow the accepted methods of practice prescribed by his profession.

In *Owens v. McCleary* the evidence showed that the defendant physician treated the patient for hemorrhoids, and that in doing so he did not use any of the methods of treatment approved by his profession, but on the contrary, employed one distinctly disapproved by the profession, thereby inflicting serious injury on the patient. The court said that not to employ the methods followed or approved by a physician's school of practice, evidences either ignorance or experimentation on his part. If the physician wishes to avoid civil liability, he must employ, in the treatment of patients, methods which are recognized and approved by his profession as most likely to produce favorable results.[19]

In *Graham v. Dr. Pratt Institute*, the patient went to the defendant physician in response to a newspaper advertisement that smallpox pittings could be successfully removed. The results of the treatment were unsatisfactory, and the patient brought action on grounds of malpractice. Evidence was introduced to show that there is no known treatment in medical science for the cure or removal of smallpox pits. The court said that if a physician applies a treatment not sanctioned by medical society, and which the physician is bound to know is not sanctioned, the law imputes malicious intent in the physician's conduct.[20]

DUTY TO REFER TO ANOTHER PHYSICIAN

If a physician is consulted by a patient with regard to a disease which he has not the skill and knowledge to treat, it is his legal duty to so inform the patient and to suggest the services of another physician.

In *Mernin v. Cory*, the defendant dentist failed to extract an entire tooth. On subsequent visits he attempted to remove the remaining fragment but without success. As a result of excessive manipulations, infection developed in the patient's jaw. The patient repeatedly asked the dentist if it would not be proper for her to consult a physician and surgeon, and the dentist advised her that this was unnecessary. Relying on such advice, she postponed consulting a physician for a long time, and afterwards when she did, it was too late for her to receive benefit from any treatment. The court found that the dentist violated a legal duty in not referring the patient to a physician when he found that he could not handle the situation.[21]

DUTY TO GIVE INSTRUCTIONS TO THE PATIENT

It is the legal duty of a physician, in dealing with a case, to give the patient all necessary instructions applicable to the diagnosis, so that the patient may have a better understanding of the ailment and thus

cooperate more intelligently with the physician in carrying out the proper treatment.

In *Everts v. Worrel*, it appeared that the physician told the patient that his skin condition was acne. The fact was that the physician actually believed the patient had syphilis and treated him on this basis. The court said that by keeping the patient in ignorance of his true state, he would not know or appreciate the consequences that might follow certain acts or omissions on his part.[22]

In *Newman v. Anderson*, the physician was found to be negligent in omitting to give the patient proper instructions as to the application and removal of an ointment used for the treatment of a burn.[23]

OTHER LEGAL DUTIES OF THE PHYSICIAN

No attempt has been made herein to mention all the legal duties of the physician, but for the sake of completion it should be noted that a physician has been held to have a duty to an unborn child;[24] that he must respect the right of privacy of his patient;[25] and, that he cannot interfere with the personal freedom of the patient.[26]

In addition to the duties owed to his patient, there are many statutory duties imposed upon the physician by the state, the violation of which constitutes negligence. Some of these include the reporting of communicable diseases to the health authorities, the instillation of silver nitrate into the eyes of the newborn, and the recently enacted statute in California forbidding the physician to participate in rebates.

And to round out the subject of the physician's liability, it is necessary to state that besides the legal duties owed to the patient and the state, a physician still owes a duty to third persons who come within the sphere of his activities. Thus a husband can maintain an action against the physician for the loss of his wife's services; a third person who becomes infected from a negligently treated carrier has a cause of action against the physician; and, finally, a physician can be liable to a person through the negligent acts of his employees.

1109 East Main Street.

REFERENCES

1. Smith, Hubert Winston: Legal Responsibility for Medical Malpractice, J.A.M.A., 116:941, Mar. 8, 1941.
2. Hood v. Moffet, 109 Miss., 757.
3. Teller, Ludwig: Torts, Harmon Publications, N. Y. 10, N. Y., 1948.
4. Sim v. Weeks, 7 Cal. App. (2d) 28.
5. Ram v. Twitchell, 82 Vt. 79.
6. Johnston v. A. C. White Lumber Co., 217 Pac. R. 979.
7. Regan, L. J.: The Doctor and Patient and the Law, 2nd Ed., St. Louis, C. V. Mosby Co., 1949.
8. Vigneault v. Dr. Hewson Dental Co., 15 N.E. (2d) 185.
9. Ferrell v. Ellis, 129 Iowa 614.
10. Harriott v. Plimpton, 44 N. E. 992.
11. Hively v. Higgs, 120 Oregon 588.
12. Mohr v. Williams, 95 Minn. 361.
13. Coty v. Baughman, 210 N. W. 348.
14. Moses v. Miller, 216 Okla. (2d) 979.
15. Logan v. Field, 75 Mo. App. 594.
16. Tompkins v. Board of Regents of University of New York, 295 N. Y. 286.
17. Nash v. Royster, 189 N. C. 408.
18. Tadlock v. Lloyd, 65 Colo. 40.
19. Owens v. McCleary, 281 S. W. 682.
20. Graham v. Dr. Pratt Institute, 163 Ill. App. 91.
21. Mernin v. Cory, 79 Pac. R. 174.
22. Everts v. Worrel, 197 Pac. R. 1043.
23. Newman v. Anderson, 217 N. W. 306.
24. Stemmer v. Kline, 17 Atl. (2d) 58.
25. DeMay v. Roberts, 46 Mich. 160.
26. Jillson v. Caprio, 181 Fed. (2d) 523.

CASE REPORTS

- Chronic Idiopathic Hypoparathyroidism Simulating Epilepsy
- Topical Use of Cortisone in Erythema Multiforme Bullosum
- Paroxysmal Hypertension Secondary to Malignant Pheochromocytoma
- Injurious Effects from the Sting of the Scorpionfish, *Scorpaena guttata*
- Malignant Teratoma of the Testicle in an Infant Four Months of Age

Chronic Idiopathic Hypoparathyroidism Simulating Epilepsy

Report of a Case

WILLIAM SCHOTTSTAEDT, M.D., and GILBERT S. GORDAN, M.D., Ph.D., *San Francisco*

CHRONIC idiopathic hypoparathyroidism is an uncommon disease which has been recognized only recently. It is important to discover the condition in its early stages, for delay in correction of the fundamental metabolic disturbance may result in irreversible damage. Because the presenting symptom is often that of convulsions, the condition is frequently mis-diagnosed as epilepsy (as in the case presented here). Anticonvulsant drugs may control the seizures but do not affect the basic disease process.

The following case illustrates the problem of diagnosis, the course of the disease, and the response to therapy.

CASE REPORT

A white, married school teacher, aged 37 years, entered the out-patient department of the University of California Hospital on February 26, 1948, with complaint of convulsive attacks during the preceding five weeks. The first episode had occurred three weeks after the birth of a fourth child. Each attack consisted of loss of consciousness without premonition, tonic spasm of the body in extension without convulsive movement, biting of the tongue, or urinary incontinence, followed by several hours of deep sleep from which the patient awoke with severe headache that subsided gradually. There were no muscle cramps, and the attacks were not associated with stridor. The husband remarked upon the patient's "jumpiness" at night and said she seemed to have become less stable emotionally. In addition the patient's memory was severely impaired.

The family history and past history were not contributory. The patient's four pregnancies had terminated in full-term normal deliveries without complications; all the children were living and in good health. Upon physical examination, slow, halting speech and loss of facial expression were noted. Otherwise, the results of examination at that time were considered normal. An electroencephalogram was characterized by both generalized and focal dysrhythmia of nonspecific and paroxysmal patterns. The generalized dysrhythmia was exaggerated with hyperventilation and was compatible with convulsive susceptibility of moderate or pronounced degree. The focal dysrhythmia appeared to center in the right temporal and right frontal regions.

The patient entered the hospital on March 28, 1948. The physical condition was unchanged except for positive Hoffmann signs bilaterally with hypoactive knee and ankle jerks. There was considerable tightness of muscles and joints. In x-ray examination of the skull a density which, in retrospect, may have been a calcification in the basal ganglia was observed. Pneumoencephalograms were done and 100 cubic centimeters of clear fluid was removed. It contained 22 mg. of protein per 100 cc., and no cells; reactions to Pandy and Wassermann tests were negative and the colloidal gold curve was normal.

The patient was instructed to take diphenylhydantoin, 0.1 gm. daily, and phenobarbital, 0.03 gm. three times daily. One mild attack occurred the day after discharge, but none thereafter. However the patient remained quite confused mentally, could not be left home alone, had definite disturbance of affect and a tendency to laugh or cry without apparent reason.

In December 1948 the patient complained of blurring of vision. Incipient subcapsular cataracts were noted and in February 1949 an extracapsular extraction of the lens of the right eye was done. On a follow-up visit the following month, a physician who had not previously observed the patient, noting the combination of convulsive disorder and bilateral cataracts, ordered blood calcium and phosphorus determinations. The serum calcium level was 4.3 mg. and the phosphorus level 7.9 mg. per 100 cc., with serum proteins 6.3 gm. per 100 cc. (drop method). The patient was returned to the endocrine clinic where positive Chvostek and Trousseau signs and absence of calcium from the urine were noted. She was hospitalized with a tentative diagnosis of idiopathic hypoparathyroidism on June 8, 1949.

At this time the patient was thin, appeared middle-aged, spoke hesistantly and had occasional difficulty in articulation. Her memory was poor and her affect flat. Occasional jerking movements of the arms and a coarse tremor were noted. The joints were tight owing to muscle spasm, and the reflexes were generally hypoactive. Chvostek and Trousseau signs were strongly positive.

From the Endocrine Clinic of the Division of Medicine, University of California School of Medicine, San Francisco, California.

In an electrocardiogram there was a prolonged Q-T interval (0.50 second) owing to a long S-T segment followed by a normal T wave. The electroencephalogram was similar to the first record and was not altered by intravenous injection of calcium. In x-ray examination of the skull, calcifications in the basal ganglia and a semilunar calcification in the left anterior fossa were noted. No evidence of nephrocalcinosis or stones in the urinary tract was observed in x-ray examination of the abdomen. X-ray studies of the entire mouth were carried out, but the stubby roots of teeth characteristic of the occurrence of hypoparathyroidism early in life were not present. This was considered evidence that the disease had developed after eruption of the permanent teeth. Because of reports of monilia infection in association with hypoparathyroidism,[3] cultures were made of material from the throat but the fungus was not grown on the medium.

Blood cell count, reaction to a Wassermann test, alkaline phosphatase content, sugar content (fasting) and corrected sedimentation rate were normal. Results of routine tests of the urine were normal, and repeatedly negative reaction to the Sulkowitch test demonstrated the absence of calcium from the urine.

Diphenylhydantoin and phenobarbital were discontinued on entry. Shortly thereafter the Ellsworth-Howard test[2] was carried out to establish whether or not the patient was responsive to parathyroid hormone. Two hundred units of parathyroid extract were given intravenously. Urine specimens were collected before and after injection and tested for phosphate clearance. Results were as follows:

	Blood — Mg. per 100 cc. of:		Urine		
Time	Calcium	Phosphorus	Vol.	Phosphate (mg. per 100 cc.)	Phosphate Clearance
6 to 8 a.m.	4.8	6.6	400 cc.	5.6	160 cc./hr.
8 a.m. 200 USP units parathyroid extract given intravenously					
8 to 10 a.m.	....	....	755 cc.	9.0	504 cc./hr.
10 to 12 m.	5.4	6.2	750 cc.	8.0	480 cc./hr.

The threefold increase in phosphate clearance clearly demonstrated that the patient was responsive to parathyroid extract and that the hypoparathyroidism resulted from a deficiency of parathyroid hormone rather than from refractoriness to this hormone.

Following this test the patient was given dihydrotachysterol (A.T. 10), 1 cc. daily, with a regular diet. As improvement was slow, calcium gluconate and vitamin D were added. Since increasing the serum calcium level without simultaneously lowering the serum phosphorus level favors the development of metastatic calcifications, aluminum hydroxide was given to suppress absorption of phosphorus. As improvement occurred, the urinary excretion of calcium became normal (Sulkowitch: two plus).

The patient was discharged from the hospital on a regular diet with dihydrotachysterol, 1 cc. daily, calcium lactate, 2 gm. daily, aluminum hydroxide, 15 cc. four times daily, and vitamin D, 150,000 units daily. These medications have been maintained and the chemical components of the blood have gradually returned to normal. It has been possible to reduce the dose of dihydrotachysterol to 0.5 cc. per day, on which the patient is free of symptoms or signs of tetany.* Reaction to the Sulkowitch test for calcium remains two plus, and the serum calcium content is 12 mg. per 100 cc. and the phosphate content 3.7 mg. per 100 cc.

The patient stated that she feels more relaxed, no longer has the twitchings and "jumpiness" formerly so annoying, is more stable emotionally, and feels (and her family agrees) that she has regained much of her memory. She has taken no anticonvulsants since discharge. An electroencephalogram taken in September 1949 showed no essential difference from previous records; the intracranial calcifications remain unchanged. The patient is not as alert mentally as she was before the illness but her condition is better than it was during the time anticonvulsant medication was being given. The husband, who had given up his job to take care of her, has returned to work since the patient can now care for herself and her home.

*Current cost to a private patient of the medication presented in this case is approximately $17.70 per month at most pharmacies.

DISCUSSION

The presenting symptoms of idiopathic hypoparathyroidism are extremely varied. The patient may first complain of asthma because of stridor associated with the attacks, of arthritis because of joint stiffness due to muscle spasm, of dim vision because of cataracts, or of epilepsy because of convulsive seizures. Convulsive attacks and papilledema may suggest the possibility of a brain tumor. The diagnosis, however, can be made easily if the possibility of hypoparathyroidism is kept in mind. Positive Chvostek and Trousseau signs should indicate the presence of tetany clinically. The Sulkowitch test* will demonstrate the absence of calcium from the urine and is a simple method for establishing a presumptive diagnosis which then can be confirmed by determining serum calcium and serum phosphorus levels.

The objectives of treatment also are simple—to increase the serum calcium level and to decrease the serum phosphorus level. Unless both objectives are attained, abnormal calcifications may continue to form. The best agent to use for this double purpose is dihydrotachysterol. Vitamin D may be used but should be combined with aluminum hydroxide to decrease phosphorus absorption. Early recognition and treatment of the condition are required to prevent permanent mental damage.

SUMMARY

A case of chronic idiopathic hypoparathyroidism simulating epilepsy has been presented. A few simple procedures for establishing the diagnosis have been emphasized. These are the Chvostek and Trousseau signs and the Sulkowitch test. Blood calcium and phosphorus determinations will establish the diagnosis. The importance of early treatment is stressed, since only by prompt therapy can the patient avoid aberrant calcifications which may result in permanent visual impairment and mental deterioration.

REFERENCES

1. Albright, F., and Reifenstein, E. C., Jr.: The Parathyroid Glands and Metabolic Bone Disease, Baltimore, Williams & Wilkins, 1948.

2. Ellsworth, R., and Howard, J. E.: Studies on the physiology of the parathyroid glands. VII. Some responses of normal human kidneys and blood to intravenous parathyroid extract, Bull. Johns Hopkins Hosp., 55:296-308, Nov. 1934.

3. Sutphin, A., Albright, F., and McCune, D.: Five cases (three in siblings) of idiopathic hypoparathyroidism associated with moniliasis, J. Clin. Endocrinol., 3:625-634, Dec. 1943.

*The Sulkowitch reagent consists of oxalic acid 2.5 gm., ammonium oxalate 2.5 gm., glacial acetic acid 5.0 cc., and distilled water q.s.ad 150 cc. The test is performed by adding 2 cc. of the reagent drop by drop to about 5 cc. of urine in a test tube and noting the amount and speed of appearance of a precipitate. Results are recorded as zero if no cloud appears within two minutes, one or two plus if a fine or heavier cloud appears *after* 30 seconds, and three or four plus if a flocculent or curdy precipitate appears *in less than* 30 seconds.

Topical Use of Cortisone in Erythema Multiforme Bullosum

Report of a Case

Harold C. Fishman, M.D., *Beverly Hills*

TOPICAL application of cortisone, a method of use on which no report could be found in the literature, was employed with good result in a case of vesicular and bullous dermatosis.

An 85-year-old white woman had been confined to bed for three years with paresis of the right arm and leg following a cerebral hemorrhage from hypertension. Cardiac decompensation also was present, and from time to time numerous drugs, including sedatives, diuretics, laxatives, and cardiac medications had been given. Three weeks before the patient was observed by the author, bullae and vesicles began to develop. When first observed the patient had many discrete bullae, ranging in size from that of a grape to that of a lemon, scattered heavily over the arms, legs, chest, abdomen and back. Many of the bullae were on a non-erythematous base. Nikolsky's sign was absent. There was one small ulcer in the mouth. On the back were many erythematous macular iris lesions. A diagnosis of erythema multiforme bullosum was made.

Dressings soaked in a 1:8000 solution of potassium permanganate were applied and Benadryl® was given by mouth. All former medication was discontinued, but on the advice of an internist digitalis therapy was started. New vesicles and bullae continued to appear and the condition of the patient appeared to be deteriorating. Cortisone was given intramuscularly, 200 mg. the first day and 100 mg. daily thereafter. The patient's spirit rose and there was some lessening of the discomfort from the bullae. Involution of the lesions was hastened somewhat, but at the end of three weeks of intramuscular cortisone therapy, new vesicles and bullae were still appearing. Although the patient felt much better, the clinical improvement was slight. A salve made of 100 mg. of cortisone and 240 gm. of a water-soluble base was applied liberally to all lesions twice a day. At the end of three days, 90 per cent of the lesions had involuted completely, leaving only slight erythema. The lesions which cleared included vesicles, bullae, herpes iris, and the dried hard black crusts remaining at the site of previously involuted bullae. At the end of a week almost every lesion had cleared, except for a few new vesicles. No undesirable side effects were observed.

SUMMARY

A severe case of erythema multiforme bullosum was treated topically with cortisone. The vesicles, bullae, drying crusts, and herpes iris lesions cleared quickly and dramatically after only slight improvement with cortisone given intramuscularly.

105 North San Vicente Boulevard.

Paroxysmal Hypertension Secondary to Malignant Pheochromocytoma

Report of a Case and Review of the Literature

Glen O. Cross, M.D., Frank W. Lusignan, M.D., and John W. Pace, M.D., *San Francisco*

MALIGNANT, metastasizing pheochromocytomas producing paroxysmal hypertension have not been previously described in the medical literature.

In the case here reported the patient, first observed because of a tumor of the cervical spinal cord, was found to have paroxysmal hypertension in which a paroxysm could be precipitated by palpating a mass in the right side of the abdomen. This mass was a malignant pheochromocytoma and the spinal cord tumor was metastatic from it.

Only eight cases of malignant pheochromocytoma have been reported in the literature.[1, 2, 3, 4, 5, 6, 7, 8] Paroxysmal hypertension was not observed in any of these cases.

CASE REPORT

A 47-year-old white male was admitted to the hospital with complaint of inability to move the legs, weakness of the right arm and loss of bladder and bowel control. The illness was of two months' duration.

The patient had been well until attacks of headache, dizziness and a sensation of "pounding in the chest" began. These attacks were precipitated by excitement or by lying on the right or left side.

Four months prior to hospitalization the patient began to have aching pain in the right shoulder and a month later noticed tingling and numbness of the fingers of the right hand. Two months after this the patient awoke one morning unable to move the right leg and unable to initiate micturition. In the following month complete paraplegia developed, with loss of bowel and bladder control. Ulcers formed over the sacrum.

Upon admission to hospital the patient was emaciated. There was pronounced atrophy of the right arm and of both lower extremities. Frequent spasmodic movements of the legs were observed. There were three decubitus ulcers over the sacrum. The blood pressure was 130 mm. of mercury systolic and 90 mm. diastolic.

A firm, mobile mass about 10 cm. in diameter was palpated in the right upper quadrant of the abdomen. Manipulation of the mass precipitated an attack of dizziness, headache and palpitation of the heart similar to the spontaneous attacks previously described by the patient. The blood pressure was observed while the mass was being palpated and it rose from 130 mm. of mercury systolic and 90 mm. diastolic to 245 mm. and 145 mm. respectively. In association with this change, pronounced constriction of the retinal arterioles was observed ophthalmoscopically.

In examination of the cranial nerves no abnormalities were noted. There was a zone of hypalgesia and hypesthesia on the left side of the body below the level of the fourth cervical dermatome. There was mild hyperesthesia of the body below this level. Weakness of spastic type was noted in the right arm and both legs; it was most pronounced in the right leg. Reflexes were generally hyperactive and a positive Babinski response was elicited in the right foot. There was pronounced loss of tone of the anal sphincter.

Special Studies:

Blood cell counts were normal except that leukocytes numbered 13,450 per cu. mm. (The patient had cystitis.)

The spinal fluid was normal dynamically and chemically.

In chemical analysis of the blood the following abnormalities were noted: sodium chlorides, 103.3 mg. per 100 cc.; sugar, 66.0 mg. per 100 cc.; phosphatase, 6.0 Bodansky units.

Results of studies of the urine were within normal limits.

In an intravenous pyelogram, distortion and downward displacement of the right kidney by a large mass at its upper pole was observed.

In a film of the cervical vertebrae, erosion of the right pedicles in the lower cervical region (Figure 1) was noted.

In a Pantopaque® myelogram there was a filling defect extending upward from the first thoracic vertebra (Figure 1).

Injection of 0.5 mg. of histamine produced a rise in the blood pressure from 120 mm. of mercury systolic and 70 mm. diastolic to 225 mm. and 130 mm. respectively (see chart).

The patient was placed on a diet high in proteins, and 25 mg. of testosterone propionate was given intramuscularly daily. This restored a positive nitrogen balance. Infrared therapy to the decubitus ulcers combined with the positive

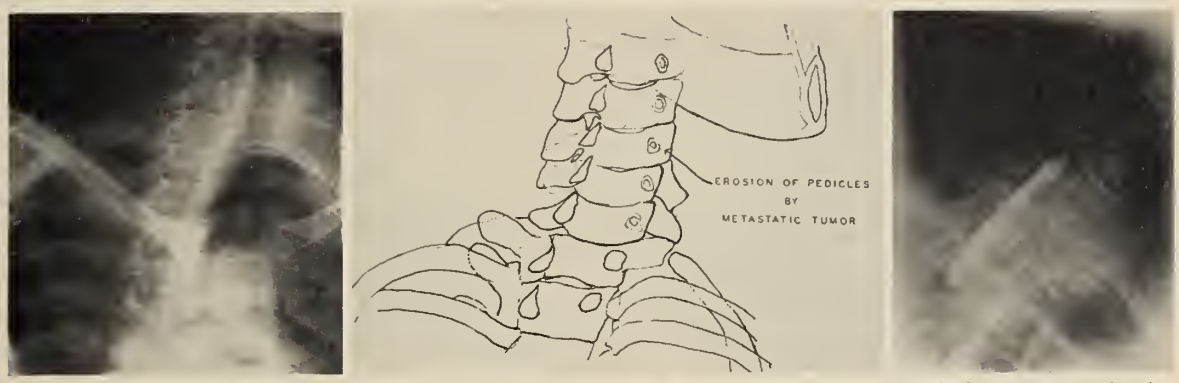
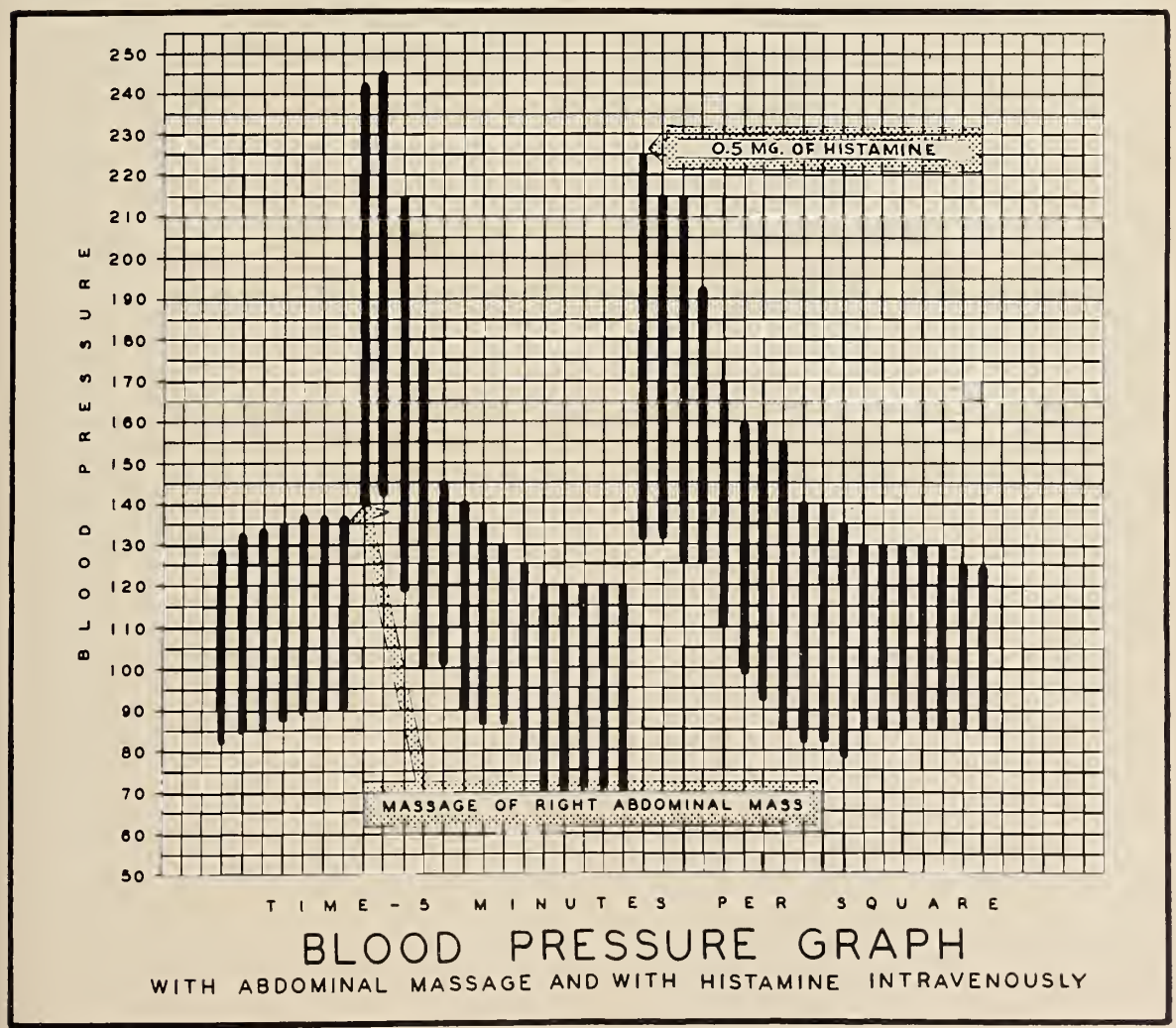


Figure 1.—*Left,* x-ray film of cervical vertebrae. *Center,* tracing of x-ray film. *Right,* cervical myelogram showing filling defect.



nitrogen balance resulted in prompt healing. Tolserol® (mephenesin) given in doses of 2 gm. three times a day decreased the painful spasticity of the lower extremities.

When the patient's general condition had sufficiently improved, cervical laminectomy was done. The laminae were exposed from the second thoracic to the fourth cervical spine. A reddish-yellow tumor mass was observed extending between the laminae of the sixth and seventh cervical vertebrae (Figure 2, arrow). The laminae beneath the tumor were moth-eaten in appearance and soft and spongy to palpation. The tumor invaded the musculature of the neck and extended extradurally to involve the anterior and right lateral surface of the dura. It extended downward in a thin sheet in the spinal canal and was closely adherent to the dura. Complete removal was impossible. Postoperatively the patient regained considerable motion of the legs and was able to control the anal sphincter.

One month later the abdominal tumor was removed through a right lumbar incision. It was a firm reddish-yellow mass that was well encapsulated (Figure 2). When the tumor was manipulated in the process of removal, the blood pressure rose from 120 mm. of mercury systolic and 90 mm.

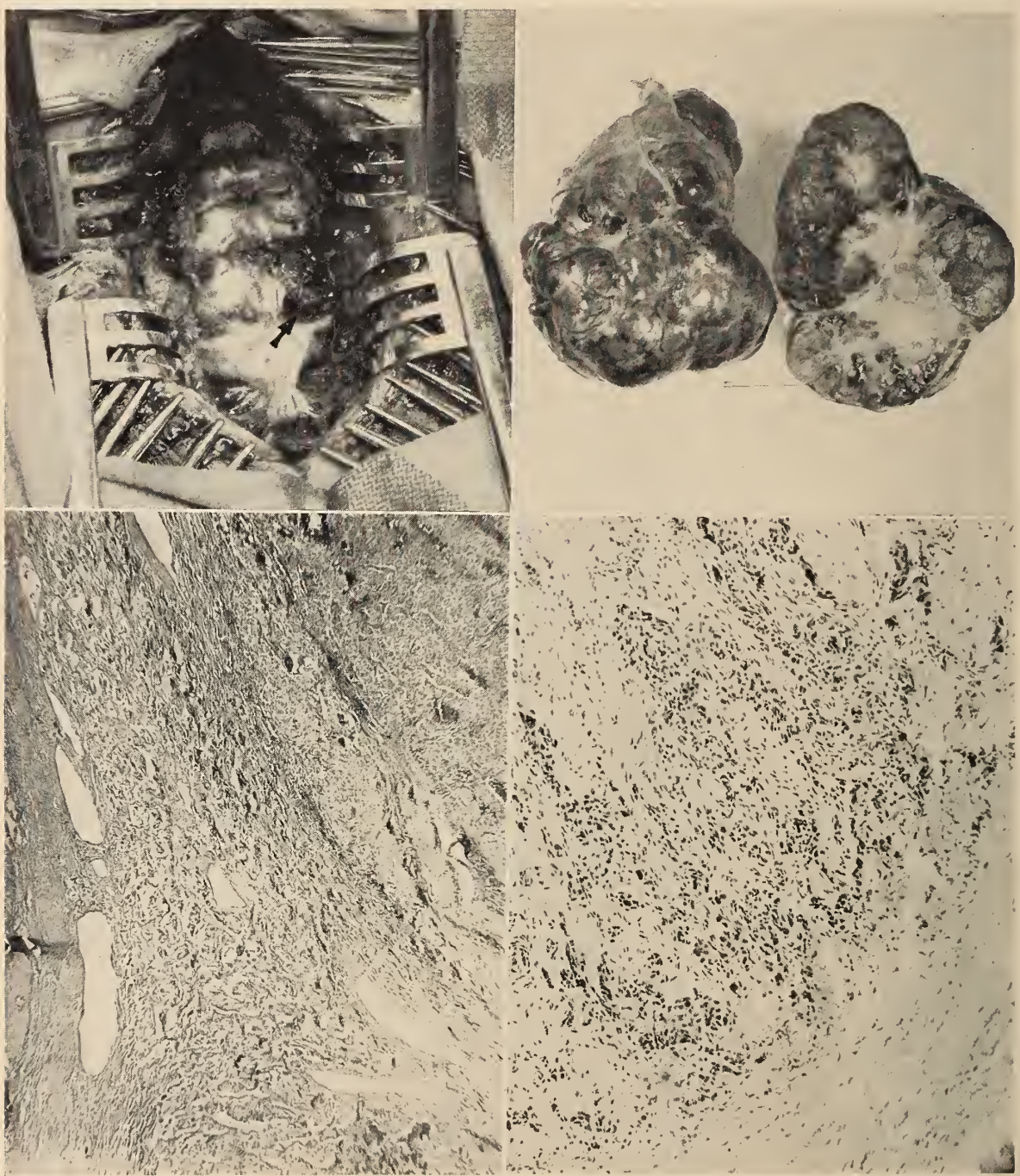


Figure 2.—*Upper left,* primary tumor protruding between the laminae. *Upper right,* primary adrenal tumor. *Lower left,* photomicrograph of the primary tumor (× 35). *Lower right,* photomicrograph of metastatic tumor (× 35).

diastolic to 260 mm. and 170 mm. respectively, and it was necessary to administer benzodioxane to lower it to a safe level until the pedicle could be ligated.

Following operation the blood pressure was maintained by giving 2.5 cc. of lipoadrenal extract intramuscularly every six hours and by continuous intravenous drip of epinephrine solution that was titrated to maintain the blood pressure at 140 mm. of mercury systolic and 90 mm. diastolic. The postoperative course was complicated by the development of a slough of tissue at the site of the intravenous epinephrine injection. This was repaired by a skin graft from the thigh. A course of deep x-ray therapy to the cervical area was given in hope of checking the growth of the remaining tumor there. There were no further attacks of hypertension following removal of the primary tumor.

DISCUSSION

Calkins and Howard[3] pointed out that there are reports of 176 cases of surgically treated pheochromocytomas in the literature and that in 15 cases the lesions were bilateral. In five of the cases of bilateral tumor the growth was malignant. None of the patients with malignant tumors had either constant or paroxysmal hypertension. McGavack and co-workers[6] found reports of only eight cases of malignant pheochromocytoma in the literature and noted that in none of these was hypertension observed. "It seems important," these investigators stated, "to emphasize not only its [hypertension's] complete absence in the malignant forms but also its failure to appear in slightly less than 50 per cent of the benign cases." Bauer and Belt[1] in a discussion of malignant pheochromocytoma mentioned the eight reported cases and concluded that paroxysmal hypertension does not occur with malignant tumors of this type. Hyman and Mencher[5] pointed out that pheochromocytomas have been known to develop simultaneously in two or more sites. Philips[7] reported observation of intrathoracic pheochromocytomas. Eisenberg and Wallerstein[4] commented on the concomitant occurrence of pheochromocytomas and other types of tumors and noted that the only significant association is with the neurofibromata. They found reports of nine cases of this combination in the literature. In the present instance the primary tumor (Figure 2) was histologically identified as a malignant pheochromocytoma. Microscopic study of the metastatic tumor (Figure 2) proved its origin from the primary adrenal tumor. Many cells with large irregular nuclei containing two or more nucleoli eccentrically placed were observed in these sections. Sinusoidal spaces were frequent. In hematoxylin-eosin stained sections the cell cytoplasm was observed to be faintly acidophilic and there were occasional bluish granules. There were some long polyhedral cells varying from 10 to 50 micra in length.

SUMMARY

A case of malignant pheochromocytoma giving rise to severe attacks of paroxysmal hypertension and with metastasis to the cervical spine producing a pseudo Brown-Sequard syndrome is described.

490 Post Street.

REFERENCES

1. Bauer, J., and Belt, E.: Paroxysmal hypertension with concomitant swelling of the thyroid, J. Clin. Endocrinology, 7:30, Jan. 1947.

2. Blacklock, J. W. S., Ferguson, J. W., Mack, E., Shaper, J., and Symington, J.: Pheochromocytoma, Brit. J. Surg., 35:179, 1947.

3. Calkins, E., and Howard, J. E.: Bilateral familial pheochromocytoma, J. Clin. Endocrinology, 7:47, Jan. 1947.

4. Eisenberg, A. A., and Wallerstein, H.: Pheochromocytoma of the suprarenal medulla (paraganglioma), Arch. Path., 14:818, Dec. 1932.

5. Hyman, A., and Mencher, W. H.: Pheochromocytoma, J. Urol., 49:755, June 1943.

6. McGavack, T. H., Benjamin, J. W., Speer, F. D., and Klotz, S.: Malignant pheochromocytoma, J. Clin. Endocrinology, 2:332, May 1942.

7. Philips, B.: Intrathoracic pheochromocytoma, Arch. Path., 30:916, Oct. 1940.

8. Soffer, L. J.: Diseases of the Adrenals, Lea & Febiger, Phila., Pa., 1946, p. 274.

Injurious Effects from the Sting of the Scorpionfish, *Scorpaena guttata*

With Report of a Case

Bruce W. Halstead, M.D., *Loma Linda*

ONE of the most noxious marine animals in California waters is *Scorpaena guttata* Girard, the scorpionfish. This creature is a member of the family Scorpaenidae, the rockfishes, which are commercially sold under the name of rock cod. There are three genera and about 54 species in this family which inhabit the California coast. All of them are marine forms. The scorpionfish is the only local member of this family considered to be venomous. However, all of them have formidable dorsal spines which are capable of inflicting painful wounds. Stings from *Scorpaena grandicornis* Cuv. & Val., which is found throughout the tropical Atlantic, may be fatal.[6] Barnhart[1] and Roedel[7] in their discussions of the marine fishes of California briefly stated that *S. guttata* is capable of inflicting severe wounds with its sharp spines and that intense pain and swelling may result. Any fisherman who has had an encounter with this fish will testify to its venomosity and to the fact that it must be handled with care. Despite the number of stings that occur yearly in California, little has been written about this matter.

HABITS AND DISTRIBUTION OF THE FISH

The scorpionfish ranges from central California on south to Baja California. The fish may be captured on hook and line from piers or barges most of the year, the catch usually reaching a seasonal peak during late spring and summer. It is a shallow-water bottom-dweller and is generally found in bays, along sandy beaches or rocky coast line. When the fish is removed from the water it has the defensive habit of erecting its spinous dorsal fin and flaring out its armed gill covers and pectoral, ventral and anal fins. The pectoral fin, while dangerous in appearance, is the only fin that is unarmed. Wounds are generally inflicted by the spines of the gill covers and fins when the hook is being removed from the fish.

Very little is known about the poison or structure of the venom apparatus of *Scorpaena guttata*, although it is assumed that the apparatus is similar to that of *S. porcus* Linnaeus of Europe, which has been studied in detail.[2, 4, 5, 8]

The anterior halves of the dorsal spines are bilaterally grooved. Lying within each of these grooves is a long, thin strip of glandular epithelium which secretes the venom. The spines and glandular tissue are ensheathed by the interspinous membrane. The venom flows out between the layer of cells and the ensheathing membrane, which is pushed back as the spine penetrates the flesh of the victim. The resulting pressure on the glandular tissues aids in the secretion of the venom. The spines on the head of the fish are thought to be similar in structure to the dorsal spines. The action of the venom and spines is being studied and will be reported elsewhere at a later date.

From the Division of Medical Zoology, School of Tropical and Preventive Medicine, College of Medical Evangelists, Loma Linda.

California scorpionfish, *Scorpaena guttata* Girard (from Girard). The body of the fish is robust, little compressed; the mouth is very broad and large. The spines atop the head are high and bluntish; the spines anterior, superior and posterior to the eye are sharp; the preopercular spines are long and sharp, the opercular spines shorter. There are three knife-like suprascapular spines and the preorbital ridges terminate in spines. In the dorsal fin there are 12 long spines and 11 slightly shorter soft rays. The anal fin has three sharp spines, the second the longest and strongest, and five soft rays. The ventral fin, with one sharp spine and five soft rays, is thoracic in position. In color the fish is reddish, light or dark brown, irregularly mottled with purple and olive. The head, back, and sides are spotted with dark olive. There are dark bars on dorsal, caudal, pectoral, and anal fins and the ventral fin is reddish with dark spots. The fish attains a length of about 15 inches.

REPORT OF A CASE

A 62-year-old white male, in good health, was fishing just north of Laguna Beach, California, on Oct. 10, 1950. He captured a scorpionfish about 16 cm. long at the edge of a kelp bed in 30 feet of water. The fish was placed in a live bait box, and later while attempting to remove bait from the box the patient pricked the tip of the right index finger on one of the dorsal spines. In order to produce bleeding, it was necessary for him to suck the wound. Intense throbbing pain started almost immediately. In two or three minutes the distal phalanx became ischemic and then cyanotic. Soon the whole finger was swollen and indurated, although gradually the tip became erythematous and warm. Later the finger became numb and tactile sense diminished. Pain then began to spread to the arm and finally localized in the axilla as a dull throbbing ache. The patient complained of nausea and of a feeling described as "faintness" but did not vomit. The skin was pallid, cold and clammy. Nausea and "faintness" lasted for about two hours and then subsided.

That evening painful axillary masses developed, but the next morning the masses and the pain in the finger subsided. The color of the finger gradually returned to normal within two days, but numbness and swelling continued, and a small hematoma developed at the site of the wound. Tactile sense in the finger gradually returned to normal and after two weeks no sensory or motor impairment was evident.

Unfortunately no medical advice was available to the patient until three hours after the stinging occurred. The treatment consisted, therefore, of painting the wound with tincture of merthiolate and soaking the finger intermittently in hot water for about three hours. Hot soaks relieved the pain considerably and seemed to improve the color of the finger.

A few years earlier the patient had been bitten by a rattlesnake. He stated that the pain and other symptoms were quite similar. It is of interest also to note that the patient occasionally works with bees and is rather careless of stings, saying that they cause relatively little discomfort.

TREATMENT

Various crude forms of therapy have been recommended, but the best results have come from infiltrating the wound area with 2 per cent procaine in 1:10,000 solution of epinephrine hydrochloride. The sooner infiltration can be done, the better the results. Alternating hot and cold soaks are also helpful in relieving pain and seem to improve circulation in the affected area. If secondary bacterial infections occur, antibiotics may be used to advantage. Tetanus has been reported from stings produced by tropical scorpaenids,[2] and even though the transmission of tetanus by fishes is unlikely, the possibility should be kept in mind.

SUMMARY

A case of scorpion fish sting is reported. This fish is common to California waters. The fish and its venom apparatus are described and the therapy of stings discussed.

REFERENCES

1. Barnhart, P. S.: Marine Fishes of Southern California, Berkeley, Univ. Calif. Press, p. 60, fig. 191, 1936.

2. Bayley, H. H.: Injuries caused by scorpion fish, Trans. Roy. Soc. Trop. Med. and Hyg., 34(2):227-230, 1 fig., Aug. 1940.

3. Bottard, A.: Les Poissons Venimeux, Paris, Octave Doin, pp. 157-164, figs. 28-30, 1889.

4. Calmette, A.: Venoms, Venomous Animals and Antivenomous Serumtherapeutics, London, John Bale, Sons & Danielsson, Ltd., pp. 293-297, figs. 103-106, 1908.

5. Pawlowsky, E. N.: Gifttiere und ihre Giftigkeit, Jena, Verlag von Gustav Fischer, pp. 119-125, figs. 49-53, 57, 1927.

6. Phisalix, M.: Animaux Venimeux et Venins, Paris, Masson and Cie, 1:609, 1922.

7. Roedel, P. M.: Common Marine Fishes of California, Calif. Fish and Game, Fish Bull. No. 68, p. 110, fig. 81, 1948.

8. Tuma, V.: Travail de l'Institut d' histologie et d'embryologie à la Faculté de médicine de l'université Charles à Prague. (Reprint), 2 pp., 3 figs., March 1927.

Malignant Teratoma of the Testicle In an Infant Four Months of Age

Earl J. Boehme, M.D., Richard O. Bagley, M.D., and Albert F. Pumphrey, M.D., *Los Angeles*

MALIGNANT testicular tumors are relatively rare. They comprise about 0.5 per cent of all tumors. Ormond and Prince[4] found records of only 21 cases in 319,000 patients treated at Henry Ford Hospital since 1915. To 1928 the Mayo Clinic had reported only 102 cases.

The great majority of such tumors occur in patients between 30 and 50 years of age, and they are extremely rare in children. In the Henry Ford Hospital series none of the patients was under ten years of age. Gilbert is cited by Matassarian[2] as having found record of only 131 cases in patients under the age of 15 in reports of 5,500 cases of tumor of the testicle in the years 1803 to 1942. In the 131 cases, the tumor was dermoid in 42 instances and teratoma in 89. Only 17 of the 89 teratomas were in children one year of age or under. Recently there have been case reports of malignant tumor of the testicle in infants of five,[1] seven, and eight[3] months of age.

Teratomas are usually unilateral and arise from the rete testis. That they are frequently associated with cryptorchism is evidenced by the fact that 12 per cent of all testicular tumors occur in undescended testes while only 0.1 to 0.2 per cent of normal males have undescended testes. Teratomas grow rapidly and are highly malignant even though they do not attain a large size. The chief symptom in children is enlargement of the testicle. Since the tunica albuginea limits the growth, the smooth oval shape of an enlarged testicle is retained until late in the disease. Gonadotropic prolan is liberated in the urine and is present in diagnostic amounts in approximately 85 per cent of cases of testicular tumor.

The differential diagnosis must include hydrocele, hematocele, syphilis, tuberculosis, and benign tumor. It is important not to dismiss all scrotal swellings occurring in infants as simple hydroceles. Careful transillumination is always indicated. In one case an attempt was made to aspirate the tumor on the assumption it was a tightly distended hydrocele, although by careful examination a solid tumor can be differentiated from one containing fluid. In this regard it is interesting to note that there is a small hydrocele accompanying 15 to 25 per cent of all malignant testicular tumors. Occasionally aspiration of the fluid may be necessary for accurate palpation of the testicle. Benign tumors such as fibromas, adenomas, leiomyomas, and interstitial-cell tumors are even more rare than malignant tumors and probably cannot be differentiated clinically. The danger of malignancy in obscure, persistent testicular enlargements makes orchidectomy mandatory in such cases.

As in all malignancies, early diagnosis and prompt treatment are of paramount importance. That cures are obtained in only 15 per cent of cases by simple orchidectomy is ample proof that usually extension beyond the testicle has occurred before the diagnosis is made. When there is evidence of metastases, the prognosis is generally hopeless. Most investigators report best results with simple orchidectomy followed by intensive roentgen therapy. However, in infants the benefits that might be derived from irradiation must be carefully weighed in view of the consequences certain to follow intensive therapy. Despite precautionary measures the remaining testicle is certain to be damaged. Also the adjacent epiphyses of the pelvis and upper femur will be considerably affected. Rather than produce a disturbance of bone growth, and perhaps castration, irradiation was not used in the case here reported.

Figure 1.—Large mass in scrotum before operation.

CASE REPORT

A four-month-old Mexican male was observed in the Kern General Hospital on October 24, 1947. The child was apparently normal at birth. When he was two months of age the mother noticed that the right testicle was swollen and slightly red. It continued to increase in size and a physician was consulted.

Physical examination:

Upon physical examination, the right testicle was observed to be enlarged to 7x5x3 cm. It was smooth, non-tender, of rather firm consistency, and was not translucent. There was no involvement of scrotum and the tumor was freely movable. The left testicle was normal. Results of routine blood, urine and serologic tests were within normal limits. A roentgenogram of the chest was normal. Unfortunately, an assay of the urinary prolan could not be carried out.

Operation:

On October 27 right orchidectomy was done with ligation transection of the spermatic cord at the level of the internal abdominal ring before the testicle was freed from the scrotum. The postoperative course was uneventful and the wound healed normally. The patient was discharged on the ninth postoperative day in excellent condition. At follow-up examination six months later there was no evidence of recurrence, and the growth and development of the infant was normal.

Pathologic report:

The specimen was an oval mass, firm in consistency and measuring 6.5x5x3.5 cm. On cut section the tissue was homogenous and a pale yellow color. There was a 12 mm. cyst filled with clear fluid within this substance. On microscopic examination the normal structure was observed to be com-

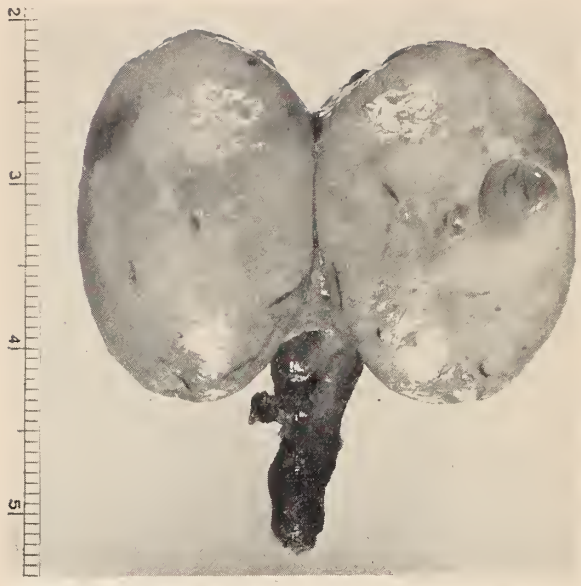


Figure 2.—Sagittal section of tumor which proved to be malignant teratoma.

pletely altered by proliferating glands and nests of cells with large oval nuclei. There were numerous mitotic figures present. The tumor cells were frequently interrupted by fibrosis. The capsule was thickened and fibrosed. The diagnosis was malignant teratoma of the testicle.

SUMMARY

The occurrence of malignant teratoma of the testicle in an infant four months of age is reported. The patient is believed to be the youngest of authenticated record to have this disease. The importance of careful examination of all hydroceles in infants to rule out solid tumors is emphasized.

1033 Gayley Avenue.

REFERENCES

1. Macera, J. M., et al.: Congenital tumor of testicle in five-month-old boy, Arch. Argent. de Pediat., 6:807-814, June 1935.

2. Matassarian, F. W.: Embryonal adenocarcinoma of testicle in infant: case report, J. Urol., 52:575-577, Dec. 1944.

3. Meltzer, A., and Bloom, B.: Malignant testicular neoplasm in infancy, New England J. Med., 237:513-514, Oct. 2, 1947.

4. Ormond, J. K., and Prince, C. L.: Malignant tumors of testicle, J. Urol., 45:685-691, May 1, 1941.

California MEDICINE

OWNED AND PUBLISHED BY THE CALIFORNIA MEDICAL ASSOCIATION
450 SUTTER, SAN FRANCISCO 8 PHONE DOUGLAS 2-0062

Editor, DWIGHT L. WILBUR, M.D. *Assistant to the Editor*, ROBERT F. EDWARDS

Editorial Executive Committee

ALBERT J. SCHOLL, M.D., Los Angeles H. J. TEMPLETON, M.D., Oakland

EDGAR WAYBURN, M.D., San Francisco

For Information on Preparation of Manuscript, See Advertising Page 2

EDITORIALS

Physical Therapy

In recent years the California Medical Association has aligned itself with the graduates of approved colleges of physical therapy in an attempt to establish a system of registration for graduates who confine their activities to work carried out under the supervision and direction of physicians. During this same time another group has been working for legislation which would set up a state licensing board for those who would practice various forms of physical therapy on the public at large under no professional supervision.

In the current session of the Legislature these two movements have clashed head-on.

In order to prepare itself for this collision the Legislative Committee of the Association started gathering evidence early in 1950. It was primarily concerned with the training that the unsupervised physical therapists received, the manner in which they practiced and the ethical standards, if any, which they maintained. The answers were secured and have been presented to the Legislature.

An employee of the Association was sent to a "physical therapy school" claimed by the other group to be "outstanding"—a three-room establishment above a Berkeley liquor store. There, for six months—and a fee of $300—he studied "physical therapy." His findings were given to the Legislature in a 28-page affidavit, complete with photographic evidence of examination papers, diploma, etc. In brief, his conclusions may be summarized about as follows:

1. Any student who paid the $300 tuition was assured of graduation.

2. Examinations were a farce; when he, intentionally or otherwise, missed examination questions, the correct answers were written in by the instructor and a grade of 100 per cent given him.

3. Special emphasis was laid on the technique of administrating colonics; the instructor was a woman who claimed to have started in this field twelve years ago, her first patient being her ailing husband. She later admitted that the patient had died after two years.

4. Students of the school were instructed in how to build up a practice by starting in on neurotics, arthritics and others in home visits in evening hours; this start, they were told, would permit them to hold down a regular job and gradually build a large enough clientele to warrant setting up a "physical therapy" establishment.

5. Graduates of the school were eligible for membership—for an additional $33—in the statewide organization seeking a licensing board. This organization, presumably for want of funds, has permitted its bulletin to be subsidized by equipment manufacturers and others who would teach the members how to "get on easy street."

6. The climax-capper was eligibility of organization members to take a course—$200 tuition plus $5 for "student notes"—in "thalamotherapy," a system for treating cancer and other diseases by having the patient wear goggles in which different-colored glass lenses (with no optical qualities) were inserted. This two-day course was taught by a chiropractor who claimed unusual success in "bloodless

surgery" and was sponsored by a former president of the statewide organization.

That is only a part of the story but probably enough to give an idea as to the professional and ethical standards of this self-named group of "physical therapists." The legislative committee which heard the two opposing bills voted unerringly in favor of the C.M.A.-sponsored measure. Within a week the Assembly confirmed the committee's findings by a favorable vote of 61 to 5 for the bill.

At this writing the measure has not come before the State Senate. However, unless there is a startling reversal, favorable Senate action may be anticipated. If this occurs and is followed by Governor Warren's signature, the practice of physical therapy will be classified under a registration system which will separate the well-trained physical therapists from the practitioners who want to open offices and practice on the public without diagnosis or examination.

It is hoped that favorable action on this measure will be gained. Then, and only then, can we count upon the maintenance of high professional standards in a practice which is, and wants to remain, an adjunct to the practice of medicine, under competent medical supervision and instruction. Those who want to open a business establishment and "get on easy street" would be debarred from this legitimate practice as unqualified; there is ample reason to believe that they should be debarred from all practice because of their lack of training, their ignorance of examination or diagnosis and their avidity, in view of their limited knowledge, to treat all comers. This is quackery at its worst.

Prescribed Reading

Under authority of the C.M.A. Council, the Association's office is now issuing a monthly news letter. Under the title *Rx Reading* it aims to bring to the members each month a brief digest of events and happenings which should be of interest to all physicians.

Legislation, economic developments, governmental policies—anything which may affect the physician in his practice—are in the field of this new publication. *Rx Reading* is planned as a brief review of current events in a readable form to save the time of the busy physician.

Members of the Association are urged to give this news letter a few minutes each month, to pick up the gleanings from a large number of sources on items which have a real meaning for some, if not all, physicians. Suggested news items are always welcome; and criticisms, preferably constructive, will be paid full heed. *Rx Reading* is your publication.

CALIFORNIA MEDICAL ASSOCIATION

DONALD CASS, M.D. .....President
H. GORDON MacLEAN, M.D.....President-Elect
LEWIS A. ALESEN, M.D.....Speaker
DONALD A. CHARNOCK, M.D.....Vice-Speaker
SIDNEY J. SHIPMAN, M.D.....Council Chairman
ALBERT C. DANIELS, M.D.....Secretary-Treasurer
DONALD D. LUM, M.D. .....Chairman, Executive Committee
DWIGHT L. WILBUR, M.D.....Editor
JOHN HUNTON, Executive Secretary.....General Office, 450 Sutter Street, San Francisco 8
ED CLANCY, Field Secretary.....Southern California Office, 417 South Hill Street, Los Angeles 13. Phone: MAdison 8863

NOTICES AND REPORTS

Council Meeting Minutes

Tentative Draft: Minutes of the 378th Meeting of the Council of the California Medical Association, San Francisco, March 17, 1951.

The meeting was called to order by Chairman Shipman in Room 261 of the St. Francis Hotel, San Francisco, at 9:30 a.m., Saturday, March 17, 1951.

Roll Call:

Present were President Cass, President-Elect MacLean, Speaker Alesen, Vice-Speaker Charnock, Councilors Ball, Crane, Henderson, Dau, Ray, Montgomery, Lum, Pollock, West, Thompson, Shipman and Bailey, Secretary Daniels and Editor Wilbur. A quorum present and acting.

Absent for cause were Councilors Green, Heron and Frees.

Present by invitation during all or a part of the meeting were Dr. John W. Cline, president-elect of the American Medical Association; Dr. George F. Lull, Secretary of the American Medical Association; Dr. Dwight H. Murray, legislative chairman; Dr. Malcolm Merrill of the State Department of Public Health; Dr. Garnett Cheney; Dr. John R. Upton, chairman of the Blood Bank Commission; Dr. L. H. Garland; Executive Secretary Hunton, Assistant Executive Secretary Thomas, Legal Counsel Hassard, Field Secretary Clancy, Messrs. Bowman and Paolini of California Physicians' Service, Messrs. Whitaker, Jr., and Dorais of public relations counsel, and county executive secretaries Waterson of Alameda-Contra Costa, Wood of San Mateo, Gillette of Fresno, Cochems of Los Angeles, and Tobitt of Orange. Others present for temporary periods are referred to in these minutes.

1. *Minutes for Approval:*

(a) Minutes of the 377th Council meeting, held January 27, 1951, were approved.

(b) Minutes of the 225th Executive Committee meeting, held February 15, 1951, were approved.

2. *Membership:*

(a) A report of membership as of March 16, 1951, was received and ordered filed.

(b) On motion duly made and seconded, members who had become delinquent for 1950 dues were voted reinstatement as active members.

(c) On motion duly made and seconded in each instance, 15 applicants were elected to Retired Membership. These were:

William Barnhart, Harry D. Earl, Frank W. Haynes, R. G. Henderson, Clarence C. Hopkirk, Fred W. Kuhlmann, Albert A. Peterson, Nina R. Smith and Earl H. Welcome, Los Angeles County; Roscoe L. Clark and Frank Ohanneson, Sacramento County; Algernon S. Garnett and Xenophon Olsen, San Bernardino County; Jay Jacobs, San Francisco County; Harry Carlos De Vighne, Santa Barbara County.

(d) On motion duly made and seconded in each instance, six applicants were elected to Life Membership. These were:

John McAuley, Joseph Robinson, John Wehrly, Orange County; Thomas O. Burger, San Diego County; P. M. Savage, San Bernardino County; Minerva Goodman, San Joaquin County.

(e) On motion duly made and seconded in each instance, 11 applicants were elected to Associate Membership. These were:

Robert L. Kesterson and Frederick L. Kreutzer, Alameda County; Jim H. Lecky and Ivan A. May, Fresno County; Mabel Geddes and John H. Linson, Orange County; M. Hugo Childress, Ernest Jawetz, Isadore Kamin, Paul H. Leach and Max H. Teitler, San Francisco County.

(f) On motion duly made and seconded in each instance, reduction of dues was voted for 29 applicants because of illness or postgraduate study.

3. *Financial:*

(a) A report of bank balances as of March 16, 1951, was received and ordered filed.

(b) Dr. Lum, chairman of the Auditing Committee, reported on investigations into the possibility of investing funds in other types of securities than U. S. Treasury obligations. The advice of various investment counsellors was that the Association retain its investments in their present state and Dr. Lum so recommended. On motion duly made and seconded, this recommendation was approved.

(c) A letter from New Mexico Physicians' Service, outlining the position of that organization in its program of repayment of the Association's loan, was read and ordered filed.

(d) Dr. Charnock, chairman of a special committee on employees' annuities, recommended that male employees who had completed five years of employment be covered by life insurance, as in the case of one employee already so covered. On motion duly made and seconded, it was voted to approve such a policy.

4. *State Department of Public Health:*

(a) Dr. Malcolm Merrill of the State Department of Public Health answered several questions on the proposed reestablishment of the Emergency Maternal and Infant Care program, pointing out that it was felt that such a program was not needed at this time and if it should become necessary, several changes should be made from the World War II program.

(b) Dr. Cass reported on receipt of a request for a $5,000 contribution to purchase a mobile medical unit to serve migrant agricultural workers in the San Joaquin Valley. He stated he had referred this to Councilor Dau for study.

(c) A request for an appropriation to help finance a study of medical technicians was read and it was regularly moved, seconded and voted to decline this request.

5. *Presentation of Dr. George F. Lull:*

The Chairman presented to the Council Dr. George F. Lull of Chicago, Secretary and General Manager of the American Medical Association, who addressed the Council on timely topics.

6. *Committee on Emergency Medical Service:*

The Chairman announced receipt of a report from Dr. Justin J. Stein, chairman of the Committee on Emergency Medical Service, and it was regularly moved, seconded and voted to send a copy of the report to each Councilor.

7. *Public Policy and Legislation:*

Dr. Dwight H. Murray, legislative chairman, and Mr. Ben H. Read, executive secretary of the Public Health League of California, discussed several pieces of pending legislation. Opposition was expressed to a measure which would permit temporary licensure for physicians in emergencies.

Discussion was held on a pending measure which would require the signing of an allegiance oath by those holding professional licenses. On receipt of word from the author of the measure that he did not intend to press for its passage, it was agreed to take no action on this proposal. The author also urged caution on those members who might be solicited to join or make financial contributions to organizations formed outside the profession for combating this measure, on the ground that some such funds might be diverted into other channels.

A request for review of certain provisions of Public Law 734, adopted by the Congress, relating to optometrists certifying as to blindness, was moved, seconded and voted referred to the American Medical Association.

8. *Rabies Control:*

Dr. Garnett Cheney, chairman of a special committee on rabies control, reported for his committee, recommending mandatory vaccination for dogs not kept on leash. On motion duly made and seconded, it was voted to approve this report, amended to include those dogs kept on leash.

A brief report was also given by Dr. Cheney on "Q" fever.

9. *1951 House of Delegates:*

Dr. Lewis A. Alesen, Speaker of the House of Delegates, outlined a course of procedure for the 1951 meeting, to accommodate the consideration of a proposed new Constitution and prospective By-Laws to accompany same. On motion duly made and seconded, his proposed procedure was voted approval.

Dr. Alesen also recommended that the Speaker's ruling be that two proposed constitutional amendments, to the new Constitution, be acted upon as follows if the proposed Constitution is adopted: The first amendment requiring county society assessment of penalties for non-payment of assessments would be acted upon. The second, proposing new distribution of councilor districts, is so inherently faulty that its passage would make the organization inoperable, hence this would be ruled as unacceptable and not voted on. The third and last to be considered is to amend the present Constitution by changing the method of electing district councilors. This will die automatically if the new Constitution is adopted, otherwise it will be brought up to a vote. On motion duly made and seconded, the Council voted approval of these proposed rulings.

It was regularly moved, seconded and voted that the members of the Executive Committee be constituted a committee to suggest several technical amendments to the By-Laws as tentatively submitted to the House of Delegates and printed in the official journal. Upon its report on such changes, it was regularly moved, seconded and voted that such changes be incorporated in the tentative By-Laws as previously printed.

10. *California Physicians' Service:*

Mr. William M. Bowman, executive director of California Physicians' Service, reported that members of the C.P.S. Board of Trustees were appearing before the county medical societies to explain the changes in contracts and operations proposed by the board within the past year. He also reported that no beneficiary groups had been signed under the new proposed annual income ceiling.

11. *California Adoption Laws:*

Dr. Phillip Arnot reported that many physicians are confused over their obligations under state laws governing the adoption of children. It was regularly moved, seconded and voted that legal counsel prepare a statement on this subject for distribution to all Association members.

12. *Legal Department:*

Mr. Hassard reported that a case in which the Association has taken an interest, involving the obligations of physicians who are called upon for opinion evidence without their prior consent or arrangements for their compensation, is now before the State Supreme Court. He also reported on several other suits now pending in the courts.

13. *Public Relations:*

Mr. Clem Whitaker Jr. asked that a proposed endorsement drive, tentatively proposed by his office, be held in abeyance at this time. He also proposed that the presidential inaugural address of the 1951 Annual Session be broadcast, at a cost of not more than $3,000. On motion duly made and seconded, this broadcast was approved, subject to final approval by the Executive Committee.

Dr. Dwight L. Wilbur, chairman of a special committee to investigate the use of radio by the Association, reported that the committee recommended that no action be taken toward establishing a radio program at this time unless the Council or House of Delegates voted greatly in favor of such a step. He recommended that further study be given to the possibilities of utilizing radio broadcasts consisting of scientific commentaries. On motion duly made and seconded, this recommendation was approved and the committee authorized to continue its investigation of this suggestion.

14. *Committee on Public Health and Public Agencies:*

Dr. C. V. Thompson reported on meetings of the Hospital Advisory Council to the State Department of Public Health, which has invited him to audit its discussions as a representative of the Association.

Dr. Francis E. West reported on the decision of the advisory committee on a proposed morbidity study to request an appropriation of $30,000 to carry on an investigation into possible methods of making such a study. If such a study is decided upon, the National Institute of Health would provide $60,000 to $75,000 the first year and $90,000 the second year for making the study, using Santa Clara County as the first test area. On motion duly made and seconded, it was voted that the present investigations be continued.

15. *Advisory Planning Committee:*

Mr. Hunton recommended for the committee that Mr. Robert L. Thomas, newly appointed assistant executive secretary, be appointed a member of the committee and it was regularly moved, seconded and voted to make this appointment.

It was regularly moved, seconded and voted to express to Mr. William P. Wheeler, former assistant executive secretary, the appreciation of the Council for his services, especially in those instances where his duties were beyond the regular call.

16. *1951 Annual Session:*

It was regularly moved, seconded and voted that a reception be given for the President of the Association on May 14, 1951, and that invitations be extended to officers and Councilors, guest speakers, officers of scientific sections having invited guests speakers and the presidents of the county societies.

Dr. Cass asked and received approval for the Los Angeles County Medical Association to invite the members of the association to their home for needy physicians during the Annual Session, and also to solicit funds for the Los Angeles County Physicians' Aid Association.

17. *Blood Bank Commission:*

A report by Dr. John Upton for the Blood Bank Commission was given. It was duly moved, seconded and carried to sponsor a clearing house for the various banks. This is to be set up as a separate corporation.

18. *Time and Place of Next Meeting:*

It was agreed that the next meeting of the Council be held in Los Angeles on Saturday, May 12, 1951.

Adjournment:

There being no further business to come before the meeting, it was adjourned at 4:20 p.m.

SIDNEY J. SHIPMAN, M.D., *Chairman*
ALBERT C. DANIELS, M.D., *Secretary*

In Memoriam

Buckmann, Henry D. Died in Martinez, March 7, 1951, aged 57. Graduate of Cooper Medical College, San Francisco, 1908. Licensed in California in 1910. Dr. Buckmann was a member of the Alameda-Contra Costa Medical Association, the California Medical Association, and the American Medical Association.

✣

Houston, Albert J. Died in Beverly Hills, March 28, 1951, aged 77, of a stroke. Graduate of Cooper Medical College, San Francisco, 1898. Licensed in California in 1903. Dr. Houston was a retired member of the San Francisco Medical Society, and the California Medical Association.

✣

Jacobs, Jay. Died in San Francisco, March 18, 1951, aged 62, of a heart ailment; Graduate of Cooper Medical College, San Francisco, 1911. Licensed in California in 1911. Dr. Jacobs was a member of the San Francisco Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Lartigau, August J. Died in Santa Barbara, March 15, 1951, aged 79. Graduate of the University of California Medical School, Berkeley-San Francisco, 1896. Licensed in California in 1896. Dr. Lartigau was a retired member of the San Francisco Medical Society, the California Medical Association, and an Associate Fellow of the American Medical Association.

✣

Morton, Andrew W. Died in San Francisco, March 26, 1951, aged 84, of a coronary. Graduate of the University of Tennessee College of Medicine, Memphis, 1892. Licensed in California in 1898. Dr. Morton was a member of the San Francisco Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

✣

Yengst, Henry L. Died February 27, 1951, aged 61. Graduate of Chicago College of Medicine and Surgery, 1915. Licensed in California in 1941. Dr. Yengst was a member of the Los Angeles County Medical Association, the California Medical Association, and the American Medical Association.

Questions and Answers about C. P. S.

Question: Under the new two-visit deductible contract, can the annual $10 and $25 laboratory and x-ray provisions be used for the same ailments for which they were used in a previous year?

Answer: Yes, these benefits are provided each year for patients who have two-visit deductible medical coverage—and they may be used for the same ailments each year, if necessary. It is well to remember, however, that the $25 x-ray provision is for *illness*, and that the surgical contract provides up to $25 each year for x-rays performed outside the hospital for *accidents*. (The term "contract year" means one year from the date the member joined C.P.S. under the new contract, or one year from the date his contract was converted from the old to the new contract.)

Question: How can I arrange for my office secretary to receive instruction on CP.S. billing procedures?

Answer: The C.P.S. Physician Relations Department exists for the purpose of giving instruction to secretaries, nurses and receptionists of C.P.S. physician members on the procedures which should be followed in handling the clerical work connected with treatment of C.P.S. patients. The department performs its duties in various ways, principally by giving individual instruction to these medical assistants or by holding "group instruction" classes in a locality when arrangements can be made for bringing a number of the secretaries, etc., together for such a meeting. To arrange for this instruction, physician members need only to contact the Physician Relations Department in San Francisco or Los Angeles, or to contact the nearest C.P.S. district office. Answers to immediate problems which may arise may also be obtained by telephone.

Question: May osteopaths become physician members of California Physicians' Service?

Answer: No. Physician membership in C.P.S. is limited to Doctors of Medicine who are licensed as physicians and surgeons in the State of California.

Question: Under the new two-visit deductible contract are there any occasions when C.P.S. pays for medical care on the first visit to the doctor?

Answer: Yes, but only in cases of accidents, such as sprains and contusions which may require medical attention. It should be kept in mind, as well, that this benefit (medical service from the first visit in accident cases) applies only on the medical portion of the beneficiary's contract. It does not apply to patients who have only surgical and hospital coverage, nor to those who have surgical, hospital and medical-while-hospitalized benefits. To be cligible for this feature of C.P.S. protection. therefore. the patient must have two-visit-deductible medical coverage.

Question: Does C.P.S. reimburse its beneficiary members for physician and hospital bills they may pay outside California?

Answer: Yes, C.P.S. benefits apply anywhere in the world if the beneficiary member is traveling outside California, providing services are rendered by licensed doctors and hospitals. In such cases. the member pays the bill and then requests reimbursement from C.P.S. by submitting his receipted bill with his request. If the services are a benefit of his contract, he is reimbursed in the same amount which would be paid to member physicians and hospitals in California for the same services. Requests for reimbursement must be made within 90 days from the date service was received.

Question: What is the procedure in rendering emergency care to a veteran?

Answer: Emergency care should be rendered with the understanding between doctor and patient that the Veterans Administration will pay the charges involved if the condition being treated has been previously adjudicated as service-connected by the VA. Treatment for a non-service-connected disability must be at the veteran's expense, whether emergent or not.

A Request for Authority to Treat (Form 52) should be completed and mailed to the C.P.S. Veterans Department immediately after the first visit. If the veteran is unconscious, or unable to complete his section of the form. a note of explanation should be attached.

Question: How may prescription blanks be obtained for veterans?

Answer: By asking for them from any member pharmacy of the California Pharmaceutical Association which has agreed to fill veterans' prescriptions. Lists of member pharmacies are available through either the Northern (San Francisco) or Southern (Los Angeles) branches of the Association.

ATTENTION: C.P.S. Physicians

If you change your office address, C.P.S. requests that you give notification of the fact, and your new office address, to C.P.S. headquarters in San Francisco or Los Angeles or to the nearest C.P.S. district office. In this way, you will assure receipt of mailings of important C.P.S. informational material without unnecessary delay.

NEWS and NOTES

NATIONAL • STATE • COUNTY

LOS ANGELES

U. S. Public Health Service grants totaling $19,384 for **medical research projects** at University of California at Los Angeles were accepted last month by the board of regents. Largest of the grants was $7,275 for studies by Dr. William G. Clark of a new drug, sympathin. Others were: $4,998 for research by Dr. S. Roberts on endocrine secretions, $4,825 for amino acid studies by Dr. Max S. Dunn, $1,206 for study of leprosy by Dr. Charles Carpenter, and $1,080 for work by Dr. Donald S. Howard on health training.

* * *

Dr. Walter L. Palmer of Chicago was guest speaker at the March meeting of the **Southern California Society of Gastroenterology** in Los Angeles. The recently organized group, which now has about 35 members, has scheduled meetings for alternate months in the auditorium of the Los Angeles County Medical Association. The society was formed in 1950 with a nucleus of members of the American Gastroenterological Association for the purpose of fostering gastroenterology as a specialty. **Present officers** are Dr. William C. Boeck, president; Dr. Grant Harold Lanphere, vice-president; and Dr. Harold Lincoln Thompson, secretary-treasurer. The society has asked physicians interested in joining to make application to the secretary, 2202 West Third Street, Los Angeles.

* * *

Dr. Paul A. Quaintance recently was elected president of the **Los Angeles Tuberculosis and Health Association.** Dr. Joseph L. Robinson was elected a vice-president, and Dr. Clarence Morley Sellery and Dr. Thomas H. Sternberg were elected to the board of directors.

MARIN

Carrying out a plan proposed by a committee of the **Marin County Medical Society,** the county board of supervisors recently appointed a county physician and three assistants to serve the medical needs of county patients. Dr. George V. Oliva of San Anselmo was named county physician. The three assistants, each to be responsible for medical care of county patients in a prescribed area, are Dr. R. Weseman of Novato, Dr. R. B. Hartman of Mill Valley, and Dr. Gordon J. Plattes of Point Reyes. Dr. Oliva will be administrative officer and will also serve as physician for the patients at the county farm.

MERCED

Dr. W. H. Dewhirst, Jr., of Merced was elected president of the **Merced County Tuberculosis and Health Association** at the organization's annual meeting in March. He succeeds Dr. Willis M. Basye, who has been president for the past two years.

SAN FRANCISCO

Dr. Stacy R. Mettier was named president-elect of the San Francisco Medical Society at a special meeting held in March. At the same time, Dr. Herbert C. Moffitt, Jr., was elected to the newly-created post of assistant secretary-treasurer. Dr. Mettier will succeed Dr. Garnett Cheney as president in 1952.

SONOMA

More than 100 physicians from ten counties attended a two-day **postgraduate training seminar** recently held in Santa Rosa under the sponsorship of the Sonoma County Medical Society and the Committee on Postgraduate Activities of the California Medical Association. Lecturers were members of the faculty of the University of California School of Medicine.

Physicians from Marin, Napa, Lake, Mendocino, Humboldt, Del Norte, Solano, Trinity and Contra Costa counties, as well as from Sonoma, attended the meeting.

* * *

The **Sonoma County Hospital,** which in 1950 was omitted from the Resident and Internship Registry of the American Medical Association because the necessity of applying for inclusion was overlooked, has again been approved for residency in general practice, according to Dr. Henry D. Stailey, medical director of the hospital. Dr. Stailey said that he had received notification of approval from the A.M.A. Council on Medical Education and Hospitals.

GENERAL

May 15 is the last day for filing **application for admission** as a first-year student in the new **Medical School of the University of California at Los Angeles** which will open with its first class of students next September 19. Twenty-five applicants will be accepted, according to Dr. Stafford Warren, dean of the new school.

Now in temporary quarters, the school will in addition make use of teaching materials provided by the Harbor General Hospital in Torrance, and the Veterans Administration hospitals at Sawtelle and Long Beach. It is planned ultimately to build a teaching hospital on the Los Angeles campus.

* * *

Dr. Ellis Sox, chief of the Division of Local Health Service, California State Department of Public Health, was elected president of the Association of State and Territorial Directors of Local Health Service at the recent annual meeting of the organization in Indianapolis.

* * *

The 33rd annual meeting of the **American Radium Society** will be held in Atlantic City, June 7, 8, and 9. Dr. Hugh F. Hare, of the Lahey Clinic in Boston, the society's president-elect, said that the three-day meeting this year would feature a well-rounded symposium on tumors of the head and neck.

* * *

Phi Beta Pi medical fraternity alumni will hold a luncheon meeting, Tuesday, May 15, at 12:15, in the Clark Hotel, Los Angeles. All members of the fraternity are invited to attend the meeting, which is being sponsored by the alumni living in Southern California. Reservations for the luncheon ($2, including tax and tip) may be made with Forrest N. Anderson, M.D., 1417 Huston Street, Van Nuys.

* * *

The 50th annual meeting of the **American Proctologic Society** will be held June 6-9 at the Marlborough-Blenheim Hotel, Atlantic City, New Jersey. Additional information may

be obtained from the secretary of the organization, Wendell Green, M.D., 201 Professional Building, 1838 Parkwood Avenue, Toledo 2, Ohio.

* * *

The Western Association of Industrial Physicians and Surgeons will hold its tenth annual meeting Saturday, May 12, in the Biltmore Hotel, Los Angeles. The program follows:

Morning

8:30-9:00—Greetings from the president. Brief report of board of directors' meeting. Secretary and treasurer's report.

9:00-9:20—Effective Treatment of Mass Injuries—Carroll J. Bellis, M.D., Long Beach. Moderator: Homer S. Elmquist, M.D., Los Angeles. Ten-minute discussion period.

9:30-9:50—The Place of Cortisone and ACTH in the Treatment of Rheumatic Disease—Edward W. Boland, M.D., Los Angeles. Moderator: Forrest E. Rieke, M.D., Portland, Oregon. Ten-minute discussion period.

10:00-11:00—Heart Disease and Employment:

1. Present concepts of the coronary disease process—Leon Lewis, M.D., Berkeley.
2. Evaluation of the cardiac patient for employment—Eugene Levine, M.D., Los Angeles.
3. Practical problems in placement of the cardiac—Robert Gray, Director of Industrial Relations Section, California Institute of Technology, Pasadena.
4. Workmen's compensation and cardiac disease—Douglass A. Campbell, Referee, Industrial Accident Commission, State of California.
5. Summation of the discussion with recommendation as to future action necessary—Fenn Poole, M.D., Glendale.

Discussion period from 11:00 to 11:30.

Afternoon

1:00-1:20—Sickness Absenteeism due to Upper Respiratory Infection—Rodney R. Beard, M.D., Department of Public Health and Preventive Medicine, Stanford University School of Medicine, San Francisco.

1. Relationship to production in national defense effort.
2. Present concepts as to etiology.
3. Evaluation of various preventive and therapeutic measures now in use.

Moderator: L. S. Goerke, M.D., Director, Bureau of Medical Services, Department of Health, City of Los Angeles. Ten-minute discussion period.

1:30-1:50—Role of Industrial Nurse in Psychologic Defense—Mrs. Marion Mayne, Industrial Nursing Consultant, Los Angeles. Moderator: Christopher Leggo, M.D., Medical Director, California and Hawaiian Sugar Refining Corporation, Ltd., Crockett. Ten-minute discussion period.

2:00-2:20—Psychiatric Casualties in Industry—John D. Moriarty, M.D., Los Angeles, and M. M. Gilbert, M.D., Los Angeles. Moderator: Christopher Leggo, M.D., Crockett. Ten-minute discussion period.

2:30-3:30—Industrial Hygiene and Toxicology:

1. What's new in industrial medicine—R. T. Johnstone, M.D., Los Angeles, and Edward E. Dart, M.D., San Lorenzo.
2. Medical problems in chemical warfare—Lt. Col. J. S. Lerner (U.S.A. Chemical Corps Reserve), Los Angeles.

Moderator: Herbert K. Abrams, M.D., Chief, Bureau of Adult Health, Department of Public Health, State of California. Fifteen-minute discussion period.

3:45-4:00—Summation of Highlights of the Day's Program—Forrest E. Rieke, M.D., Portland, Oregon.

INFORMATION

Report of Joint Committee on Chest X-Ray

A report on mass chest x-ray surveys and on routine chest x-ray examinations in general hospitals, prepared by a joint committee representing the American College of Radiology and the American College of Chest Physicians, was released recently by the two organizations with an expression of hope that the report will "clarify any controversial problems regarding these procedures."

In an announcement accompanying the report the two medical groups said further that "it is also hoped that the broad principles upon which the report has been formulated may serve as a basis for solving any local situations which may arise concerning mass chest x-ray programs or routine chest x-ray in general hospitals."

Following are the names of members of the joint committee and the text of the report which has been approved by the board of regents of the American College of Chest Physicians and the board of chancellors of the College of Radiology:

Committee of the American College of Radiology:

Leo G. Rigler, M.D., Minneapolis, Minnesota, Chairman
Sydney J. Hawley, M.D., Seattle, Washington
Russell H. Morgan, M.D., Baltimore, Maryland
E. P. Pendergrass, M.D., Philadelphia, Pennsylvania
Paul S. Swenson, M.D., Philadelphia, Pennsylvania

Committee of the American College of Chest Physicians:

Otto L. Bettag, M.D., Chicago, Illinois, Chairman
Robert J. Anderson, M.D., Washington, D. C.
Hollis E. Johnson, M.D., Nashville, Tennessee
Edward Kupka, M.D., Berkeley, California
James H. Stygall, M.D., Indianapolis, Indiana

PURPOSE OF JOINT COMMITTEE

The purpose in having a Joint Committee on Chest X-ray is that two professional organizations who have common interests may exchange ideas and formulate unified thinking on the problems involved in routine chest x-rays in hospitals (general, mental, etc.), and mass chest x-ray programs. In addition to this the committee, after considerable discussion, agreed to another point, namely: that each physician should be encouraged to have chest x-rays on all of his patients.

LIMITS OF SURVEY

For purposes of this discussion routine chest survey examinations should be defined as those examinations of the chest which are conducted on microfilm apparatus for screening normal persons from those patients with abnormal changes in the chest. The examinations are screening and are not to be considered as diagnostic procedures. Screening method is for the purpose of detecting the presence or absence of a lesion but should not be utilized for identifying the nature of the pathological process.

The 14x17-inch film is fundamentally a diagnostic tool and its use, therefore, makes the examination more than a screening procedure. Survey chest x-rays, either in hospitals or in general population, are approved as a screening device if conducted by agencies which utilize well qualified professional technical staffs and which make a sincere effort to send the positive individuals to qualified local physicians or clinics for proper follow-up. The methods of conducting these were discussed at length. These included surveys by the U. S. Public Health Service, etc. Dr. Newell reported on the San Francisco Medical Society's plan, whereby the medical society is responsible for the surveys but the project is financed through the local tuberculosis association.

INTERPRETATION AND REPORT

Interpretation and reporting of medical findings is a medical matter and should bear the signature or identification of the responsible physician.

METHOD OF REPORTING

Method of reporting of chest survey studies: This is a local matter and is by prearranged agreement between the employer and the employee in industrial surveys; in other surveys is in accord with medical ethics, according to local agreement.

TYPE OF REPORTING

Type of reporting: The committee discourages the reporting of suspicious cases as tuberculosis. It believes this to be a clinical diagnosis. The x-ray interpreter should designate the cases that require immediate follow-up as "urgent." The small film x-ray interpretation is merely an impression.

It should be emphasized that the 14x17-inch film is a diagnostic aid and the results derived therefrom are also impressions and not diagnoses. Even the larger film is but one of several examinations necessary in order to establish correct diagnoses.

PROFESSIONAL COMPENSATION

The professional cost of performing routine chest examinations in hospitals: The Joint Committee believes the radiologist and/or chest physician should be compensated just as any other physician practicing his profession. The procedure is time-consuming and places a definite responsibility on the radiologist or chest physician. The committee likewise felt that in this matter the basic principle of payment is by arrangement between the physician and

the hospital or agency involved. In the reading of follow-up films there should also be an individual limit to the number of films which should be read in any one day by one physician and which he should not exceed. The compensation, of course, would have to take into consideration whether the physician not only reads the film but also makes the film.

CLOTHING OF PATIENTS

Whether or not a screening examination can be conducted with the patient fully clothed: Since the number of lesions overlooked because of clothing (2 per cent) is considerably smaller than the normal variations of interpretation which Chamberlin, etc., have demonstrated to exist in the reading of photofluorographic films, it was concluded that the examination of clothed persons was as effective a procedure as examination of the undressed persons. Since examination of the fully clothed persons is an easier procedure as compared with the examination of the undressed persons, the committee agreed that screening examination can be conducted with the patient fully clothed.

READERS' QUALIFICATIONS

Qualifications of readers in mass chest surveys: It was believed at the present time there was no practical method which could be used to evaluate the qualifications of a particular reader. Studies in this respect are being made at the present time. It is hoped that within a short period of time satisfactory testing methods will be available. The committee therefore agreed to leave this matter open for further discussion.

CONCLUSION

The two committees agreed that the bi-committee arrangement should continue and that another meeting be arranged in at least one year. In an effort to have the committees act continuously and without interruption, interim ideas should be sent to the respective chairmen and an exchange of opinions should continue during the meeting interval.

BOOK REVIEWS

RENAL DISEASES. By E. T. Bell, M.D., Professor of Pathology in the University of Minnesota, Minneapolis, Minnesota. Second Edition, thoroughly revised, with 123 illustrations and four color plates. Lea & Febiger, Philadelphia. 1950. $8.00.

This new edition of the well-known monograph first published in 1946 is up to the high standard set by its predecessor in presenting thoroughly and authoritatively certain pathological features of various renal diseases. There are many fine illustrations and the book is in general well printed. There may be some question, however, regarding the thoroughness of the revision. Tabular material has been enlarged by the added years of the author's experience, and a few new illustrations are presented (the newer staining techniques have apparently not been used). A relatively small number of references to current writings have been added to the bibliographies (the work of Addis and Oliver is not cited in the chapter on glomerulonephritis). The chief changes appear in the chapters on tubular diseases and extrarenal azotemia; the concept of lower nephron nephrosis is discussed as such in a few short paragraphs. Perhaps the author, as a pathologist, should not be criticized for his unwillingness to recognize the recent revolution in the concept of pathogenesis of edema; much of the section on renal physiology is out of date. One finds very little discussion of the lesions of periarteritis nodosa or of disseminated lupus erythematosus (the latter is classified as a specific infection of the kidneys), and in general the author avoids discussion of unusual or poorly understood renal diseases; this seems a pity, for such an authority might have been helpful to one searching for enlightenment.

Despite these criticisms, the work is highly recommended to medical students and physicians for its extensive, conservative, factual and unimaginative presentation of such standard diseases as developmental anomalies, obstruction and infection, glomerulonephritis and related lesions, and hypertensive disease.

* * *

WHEN MINDS GO WRONG — A Simple Story of the Mentally Ill—Past, Present and Future. By John Maurice Grimes, M.D., twenty years a psychiatrist. Four years a staff member of the Council on Medical Education and Hospitals of the American Medical Association. Published by the Author, 5209 S. Harper Avenue, Chicago 15, Illinois. 1950 $5.00.

Although there is no doubt whatever that the state hospitals throughout this country are in need of improvement, it is unlikely that this book will be effective in helping to bring about such reforms. The style employed by the author serves to prejudice his case from the outset, so that the reader is inclined to wonder more about the reasons for the author's frequent changes of employment than the justice of the cause which he has espoused. This is unfortunate, since many of the ideas set forth are valuable, and if followed through might well improve the care of the mentally ill. Particularly is this true of the appraisal of the type of individual who gravitates into employment as an attendant in a mental hospital. The stories of brutality set forth by the author have been amply confirmed in the press. How to rectify the situation is not, however, as simple as the author would like to infer. One thing that can be wholeheartedly subscribed to, however, is the segregation of those who may benefit from treatment from the chronic custodial problems. Although a start has been made in this direction, one cannot truthfully say that most of Dr. Grimes' accusations are not well grounded in fact.

FREUD: DICTIONARY OF PSYCHOANALYSIS. Edited by Nandor Fodor, Associate of the Association for the Advancement of Psychotherapy, and Frank Gaynor, Co-Author of the "Dictionary of Industrial Psychology." Philosophical Library, New York. 208 pages. 1950. $3.75.

This book is recommended by the publishers as a genuine storehouse of information for the layman, and a useful reference work for the psychologist, psychiatrist, and psychoanalyst. It consists of quotations from the works of Freud, but good judgment is not always used in their choice. For example, the definition of depression, cyclical, is extracted from Freud's contribution on "Group Psychology and the Analysis of the Ego," and that of melancholia in another place from his book "New Introductory Lectures on Psychoanalysis," and from neither does one gather any clear definition of melancholia, nor is it indicated that depression and melancholia are one and the same. Quotations are literally torn out of context so that one gets no clear idea of many of the terms defined. Certainly the definition of affectivity as "Affectivity manifests itself essentially in motor (i.e., secretory and circulatory) discharge resulting in an (internal) alteration of the subject's own body without reference to the outer world," or of beauty as "Beauty is an instance which plainly shows that culture is not simply utilitarian in its aims, for the lack of beauty is a thing we cannot tolerate in civilization," or of traumatic hysteria as "In regard to traumatic hysteria it is obviously the accident which has evoked the syndrome," or of conscious, consciousness, as "Being conscious is an ephemeral quality which adheres to a psychical process only temporarily"—certainly such definitions add little to our knowledge of Freud's concepts and often sound like gibberish when pulled out of context.

If the layman or non-analytic physician wishes to have psychoanalytic terms defined, he would find this much better done in a general psychiatric dictionary than here; and the psychologist, psychiatrist and psychoanalyst would do better to go to the original source. Moreover, the key to references which mentions the various works from which these quotations have been torn does not mention the dates the papers were written, and as a result the uninitiated reader has no idea how Freud's ideas may have changed over the many years of his numerous publications.

This volume will not always give the reader a clear conception of psychoanalytic terms as defined by Freud and cannot be recommended for this purpose.

* * *

LABORATORY MANUAL FOR PHARMACOGNOSY. By Edward P. Claus, Ph.D., Professor of Pharmacognosy, University of Pittsburgh, School of Pharmacy. Second Edition. 111 pages. The C. V. Mosby Company, St. Louis, 1950. $3.25.

This is a laboratory manual for the use of pharmacy students in their study of medicinal agents. It is set up in the form of individual monographs for the different drugs, each consisting of a few paragraphs which describe the derivation of the product and suggest to the student what particular characteristics it may have so that he can recognize it easily. U.S.P. identification tests are usually added.

The agents described are almost all of plant origin, and include many which are of little modern medical interest. For instance, a random opening of the book shows the following substances described consecutively over a few pages: poplar bud, salacin, vanilla, vanillin, cochineal, carmine, gentian, chrysarobin.

The manual should be satisfactory and useful to pharmacy students, but would have little interest for medical students.

CLINICAL EXAMINATION OF PATIENTS — With Notes on Laboratory Diagnosis. By John Forbes, M.D., M.R.C.P., Physician to the Wrexham Hospitals, and W. N. Mann, M.D., F.R.C.P., Assistant Physician to Guy's Hospital. The Williams and Wilkins Company, Baltimore, 1950. $4.50.

This is the latest in a series of small English exports which the Williams and Wilkins Company has been offering for American consumption. Written by two teachers from Guy's Hospital Medical School, it is an elementary book for English students in a stage comparable to second-year American medical students.

The book is generally good. As an introduction to diagnosis, it is thorough, clear and selective. At the end of each chapter on clinical examination there is a summary giving concise directions of procedure for the student to follow. The section on radiology of the heart may be cited as an example of good diagrammatic teaching. On the other hand, there is a tendency to oversimplification. For instance, the exercise tolerance test, which certainly has a place in practice and teaching, is summarily dismissed as "now deservedly fallen into disuse" (page 79). The loading dose for the glucose test (page 287) is given as a single specimen of 50 grams rather than 100 grams (given either singly or in two doses) which is favored in most American laboratories.

The volume can be recommended for comparison with American texts, although it has too much of a local flavor for general use.

* * *

THE LIVER, Porta Malorum (The Gateway to Disease). By Kasper Blond, M.D., L.R.C.P., L.R.C.S., L.R.F.P.S., Late First Assistant of I and II Surgical Dept., Allg. Krankenhaus, Vienna, and David Haler, M.B., D.C.P., Hon. Consulting Pathologist, Westminster Hospital, The Williams and Wilkins Company, Baltimore, 1950. $5.00.

This book attempts to show that an inefficiently functioning liver is the common factor in a number of apparently diverse states, including gastrointestinal ulceration, hemorrhoids, varicose veins, cholecystitis, nephritis, ulcerative colitis, jaundice, toxemia of pregnancy and allergic disease. In setting up this theory the authors talk bravely of getting away from preconceptions. They then fall back almost immediately on the Ancients and the pre-microscopic pathologists for authority. Such complex and tortured reasoning reminds one of certain 19th century philosophers.

The opening chapters, like Chapter I on Vasa Privata and Vasa Publica and Chapter II on the gallbladder, are intriguing if unconventional. They present the hypothesis that all organs are provided with one pair of blood vessels to nourish the tissues proper (i.e., at rest) and a second pair to supply blood during periods of work. In the case of the liver the portal vein and the bile ducts represent a one-way system of circulation which supplies the liver with blood during periods of work, whereas the hepatic artery and vein nourish it at rest.

The iconoclastic portion of the book is perhaps the best. The authors call attention to various incompletely solved problems in the hepatic and biliary systems.

As soon as they present their principal hypothesis, they speak like religious fanatics with a body of dogma to be taken on faith without support of scientific fact. The reader may judge the core of the theory in the authors' words: "All disorders of life (page 69) derive from three possible sources. The first is trauma, the two others being the entrance of poisons in the widest sense of the word by inhalation into the air passages, or by swallowing. All chemical toxins and germs enter the intestine with the intake of food, liquids or drugs, all of which have to pass through the liver filter. It is our opinion that all abdominal disorders originate from liver damage. It is possible for toxins to enter the metabolic organs of absorption only from the absorbing surface of the intestinal tract, and thence via the portal circulation to reach the liver. By accepting our hypothesis, we shall be able to understand that a disease of one organ only is impossible, and that such single organ diseases do not exist outside our imagination or our text-hooks. . . .

"The solution (page 138) lies in the primary metabolic or bacterial intoxication of the liver which results in portal back-pressure. The latter may cause venous congestion in any of the organs drained by the portal vein. In some cases ulcers of the stomach develop on a varicose base; in others thrombophlebitis of the appendicular or cystic veins follows, or a chronic induration of the pancreas may develop. All these so-called clinical diseases are signs and symptoms of a disorder of the liver which involves one or more organs drained by the portal vein."

Such dogma is repeated over and over again with minor variation for angina pectoris, pancreatitis, asthma, hyperthyroidism and other conditions. The authors jump from syndrome to syndrome, not finishing one before they leap to the next. They condemn pathologists for following "Virchow's absurd theory," then present their own theories with insufficient morphological basis.

Incidentally, the literature quoted is with rare exception before 1935 and chiefly German. The authors ignore the great body of work of the past 15 years—work which does away with many of their objections to older theories.

* * *

THROMBOEMBOLIC CONDITIONS AND THEIR TREATMENT WITH ANTICOAGULANTS. By Charles D. Marple, M.D., Assistant Clinical Professor of Medicine, University of California School of Medicine, San Francisco; and Irving S. Wright, M.D., Professor of Clinical Medicine, Cornell University Medical College. Charles C. Thomas, Publisher, Springfield, Illinois, 1950. 418 pages. $8.50.

This well-published, if expensive, volume reviews in adequate detail material from the large number of contributions which have recently appeared concerning thromboembolism and its treatment by anticoagulants. The first two-thirds of the book contains sections on thromboembolic phenomena in general, mechanisms of intramuscular clotting, rationale for the use of anticoagulants, their clinical use, technics for their administration, their complications, failures and abuses, etc. So rapidly have new papers appeared that an additional one-third of the book (about one hundred pages) repeats the subject matter of the earlier sections, but covering work published in late 1948 and 1949. An appendix discusses pertinent methods.

With its extensive bibliography, this volume represents a splendid survey of the field designated by its title. One is disappointed, perhaps, by its failure to present any report by the American Heart Association's Committee for Evaluation of Anticoagulants in the Treatment of Coronary Thrombosis with Myocardial Infarction on material analyzed since that group's preliminary report in December 1948. The authors, who are members of that committee, are well qualified by experience in this field.

* * *

THE 1950 YEAR BOOK OF DRUG THERAPY (October, 1949-September, 1950). By Harry Beckman, M.D., Director, Department of Pharmacology, Marquette University School of Medicine. The Year Book Publishers, Chicago, 11, 1950.

This small selective summary of the medical literature for the past year, with editorial comment, will enable the busy practitioner to consign to the waste basket the numerous good or bad (but necessarily biased) pamphlets of the drug houses. With this handy reference, he can sleep soundly without fear that he will be overlooking some important new drug or method of therapy.

Recommended.

THE NORMAL ENCEPHALOGRAM. By Leo M. Davidoff, M.D., Director of Neurological Surgery, Beth Israel Hospital, New York City; Clinical Professor of Neurosurgery, New York University Postgraduate Medical School; and Cornelius G. Dyke, M.D., Late Associate Professor of Radiology, College of Physicians and Surgeons, Columbia University. Third Edition, Thoroughly Revised. 190 Illustrations on 156 Figures. Lea and Febiger, Philadelphia, 1951. 240 pages. $6.00.

This book has, in its two previous editions, become the standard work in English on the subject. The present edition adds little to that presented before, and the changes would hardly warrant its purchase by one who possesses one of the earlier editions. It is, however, indispensable to the neurologist and neurosurgeon, and indeed to any physician who has occasion to do encephalography or interpret roentgenograms resulting from the procedure. The technique of encephalography is clearly set forth, with the reasons for the appropriate medication, choice of gas, position of the patient, and x-ray technique. Indications and contraindications are considered at length. The illustrations are well chosen and exceptionally well reproduced. In all, the book can be unreservedly recommended.

* * *

1950 YEAR BOOK OF OBSTETRICS AND GYNECOLOGY (August, 1949 - July, 1950). Edited by J. P. Greenhill, B.S., M.D., F.A.C.S., Professor of Gynecology, Cook County Graduate School of Medicine. The Year Book Publishers, Inc., Chicago, 1950. 570 pages. $5.00.

In 20 pages Greenhill writes the history of obstetrics and gynecology for the past ten years. This serves as an introduction to the 1950 year book, which continues to be a most complete survey of the worthwhile literature of the world.

As would be expected, the monumental work of Hertig and Rock concerning the early ovum is given as one of the important contributions. The comment by the editor should be repeated in a review of this type exactly as written: "In view of the large proportion of defective fertilized ova which never develop normally, we must stop and reflect on our extensive and expensive therapy directed toward the prevention of abortions. Naturally an effort should be made to save a pregnancy whenever possible, but to persist in the presence of repeated episodes of bleeding and uterine cramps is nearly always futile."

There are several articles on erythroblastosis fetalis reviewed in this year's book and the concise statement of the editor should be read by everyone who cares for pregnant women and their offspring. Equally worthwhile is the excellent classification discussed in the chapter on abortion. These definitions should be adopted by all authors, which would do much to clarify nomenclatures and make statistical reports on such material more easily compared.

The year book quiz brings out questions which are constantly being discussed. The answers to some of these questions are:

Cancer is eight times more common in parous than in nonparous women.

In the tuberculous patient, therapeutic abortion is probably never indicated after the first trimester.

Cesarean section is the treatment of choice of transverse presentation in a primigravida with a viable fetus and in a multipara in early labor, especially if membranes rupture prematurely.

A placenta too small for the nutrition of the fetus can cause abortion.

Leukorrhea due to trichomonas vaginalis is the leading cause of pruritus vulvae.

There is no real evidence that adoption cures infertility.

External endometriosis is significantly greater in the higher social and economic levels.

Expectant treatment of menorrhagia should never be carried out when it is associated with a pelvic lesion or intermenstrual spotting.

The vaginal mucosa is more sensitive to ovarian hormones than the endometrium.

Having reviewed the "Year Book of Obstetrics and Gynecology" for the past several years, I feel that the 1950 edition is as fine a review as has ever been published. The editor's notes are those of a seasoned obstetrician and gynecologist and an excellent author.

This book again gives the busy physician a fine summary of the important world literature in this specialty.

* * *

EMOTIONS AND CLINICAL MEDICINE. By Stanley Cobb, M.D., Bullard Professor of Neuropathology, Harvard Medical School, Psychatrist-in-Chief, Massachusetts General Hospital. With an Introduction on Semantics and Definitions by John R. Reid, Ph.D., Professor of Philosophy, Stanford University, Visiting Lecturer on Psychiatry, Harvard Medical School. W. W. Norton & Company, Inc., New York, 1950. 243 pages. $3.00.

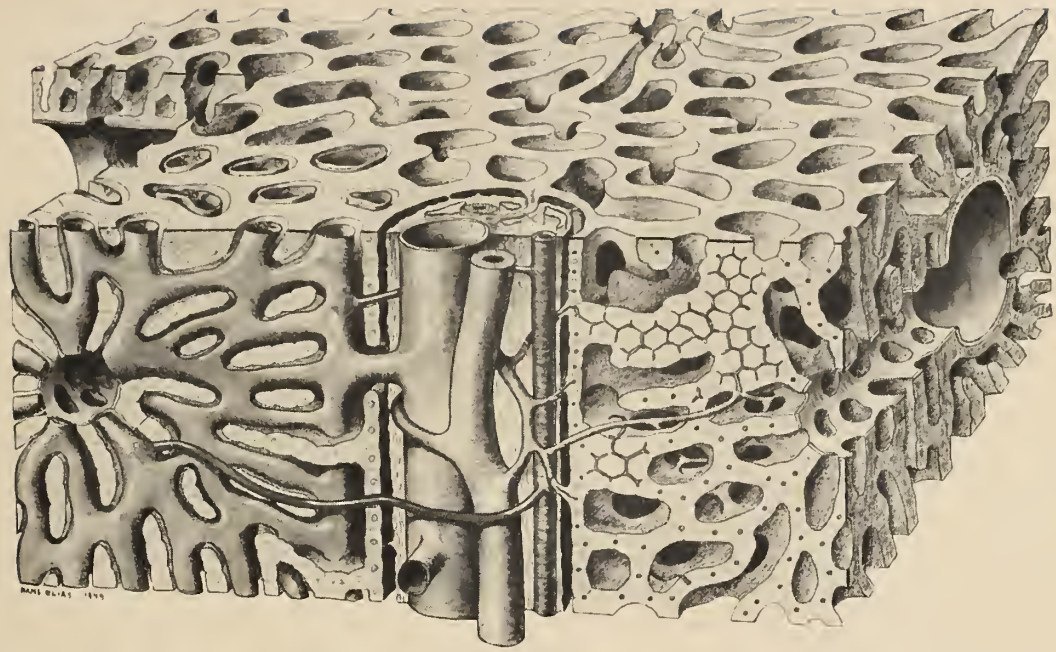
This small volume written by a man fundamentally trained in neuropathology but now devoted to psychiatry is interesting from many aspects. In the first place, it is very revealing of the conflicts in discipline between these two branches of medicine, and the compromises effected by Dr. Cobb give some insight into his own personality. This is not a book which gives all the answers to the physician desiring a shortcut to the treatment of what are now popularly called psychosomatic syndromes. It presents, rather, the author's thinking about the relation of the emotions to disease, and, because of his background both in the organic and the functional, is well worth reading. Although at times it is rather uninspired in style, the effort of reading it is repaid by the revelation of how at least some of the concepts set forth by the more progressive schools of psychiatry can be reconciled with what we know of the physiology of the nervous system.

* * *

DISEASES OF WOMEN. By Ten Teachers Under the Direction of Clifford White, M.D. Edited by Clifford White, Frank Cook, and Sir William Gilliatt. Eighth Edition. The Williams and Wilkins Company, Baltimore, 1949. $5.25.

A book by ten English physicians, which is complete and fairly well illustrated. It presents nothing particularly unusual. The chapter on anatomy seems exceptionally well written. Carcinoma in situ, which receives so much consideration in the United States, is not mentioned.

The style of presentation is quite satisfactory, but there is nothing which makes this book outstanding. It is not a complete, exhaustive survey of the subject, yet it is more than an outline. It seems doubtful, in spite of the fact that this is the eighth edition of a book written under the direction of the late Sir Comyns Berkeley, that it will take an important place in English gynecology.



The Liver Lobule . . .

The functional unit of the liver, the lobule, is the starting point in gallbladder therapy. Its cells secrete the bile for passage through the ductal system after collection in the lobule tubules.

KETOCHOL® . . .

a combination of all four of the oxidized, unconjugated bile acids normally present in human bile—initiates gallbladder therapy at its logical starting point. The primary action of Ketochol is on the hepatic cells which are stimulated to secrete bile of low viscosity that flushes the congested ducts.

RESEARCH IN THE SERVICE OF MEDICINE **SEARLE**

Each tablet contains 250 mg. of the oxidized or keto form of all four bile acids—(cholic, desoxycholic, chenodesoxycholic and lithocholic).

QUALITY PAYS

Over 41 years of well made garments

based on

- Master Workmanship
- Materials of Known Durability
- Moderate Prices

Continue to merit your Confidence and Goodwill

Order your Office and Hospital Gowns direct from our long established Firm

Style E 12
Sanforized duck
Indian Head-Nylon

Special orders can be made in other materials

You are cordially invited when in San Francisco to visit our store

Write for Free Catalogue and Material Samples

Doctors & Nurses Outfitting Co., Inc.

1214 Sutter Street San Francisco 9, Calif.

Established 1910

KABAT-KAISER INSTITUTE

For Neuromuscular Rehabilitation

1815 Ocean Front
Santa Monica, California

Specializing in the Treatment of the Crippled and Physically Handicapped Patient

Resident and Out-Patient Services

Resident Medical Director:

O. LEONARD HUDDLESTON, M.D., Ph.D.

Diplomate American Board of Physical Medicine

Richard W. Moore, M.D. David Rubin, M.D.
Clark Richardson, M.D. Rene Cailliet, M.D.

Phone: EXbrook 3-2751

DEFERMENT FOR MEDICAL STUDENTS URGED BY MANPOWER STUDY COMMITTEE

(Continued from Front Advertising Section, Page 58)

3. It will avoid interruption of studies for a period of four to six months of basic training. Such interruption would result in a loss of valuable time, a loss that, because of schedule adjustments in the colleges might exceed by several months, the actual period of training. This period, whatever its length, represents a deviation in time and effort which might better be spent in the educational program. Further, if students should be required to be inducted and to go through basic training before discovering whether they are to continue their studies, it is likely that the uncertainty of their future course would seriously distract many of them from their work for at least a year preceding their induction. It will be possible for certain of these students to enroll in an R.O.T.C. program and therefore to obtain basic military training during their period in college, or in summer vacations.

4. This Bill obligates such deferred students to later training service in the Armed Forces, or for training in the National Security Training Corps until the thirty-fifth anniversary of the date of their birth, thus insuring that they will receive deferment for education, not exemption from military service.

The Joint Committee is in favor of the provisions for an R.O.T.C. or similar Corps, as provided in sub-section d, section 6 amended in H.R. 2811. We do not favor the provision adding a period of one year to the obligated active commissioned service of any person who has agreed to perform such obligatory service in return for financial assistance while attending a civilian college. We do not believe that students receiving such aid should be obligated for service over and above that expected of their fellows.

We are concerned that under H.R. 2811, all able-bodied men, by virtue of assignment to the reserve components of the armed forces, after completion of their initial service, will be subject to the control of the military for a long period of years.

We have been impressed by the recommendation presented to your committee by the Scientific Manpower Advisory Committee of the National Security Resources Board that a National Scientific Personnel Board or some similar agency be established. We strongly concur with that Committee's observation that, following a program of Universal Military Training and Service, there will gradually accumulate an entire generation of reservists and that some effective machinery for insuring that these individuals will serve in the manner which contributes most to the strength of the nation should be devised. A National Scientific Personnel Board or similar agency is vitally needed if we are to secure the proper distribution of reserves with special training between civilian and military needs.

The symptoms of the premenstrual state can now be controlled safely and quickly...

—combines in each tablet 50 mg. of N,N-Dimethyl-N'-(2-pyridyl)-N'-(p-methoxybenzyl) ethylenediamine 8-bromotheophyllinate *[pyrabrom]*—with 100 mg. of acetophenetidin, the dependable, safe analgesic. M-MINUS 4 has evidenced dramatic effectiveness in clinical studies. Patients taking M-MINUS 4 have experienced relief of all symptoms in a very short time. There is good evidence that the administration of M-MINUS 4 has prevented the accumulation of abnormal amounts of fluid in the tissues.

Dosage—One tablet three times a day for three to five days before onset of menses.

Bottles of 24 and 100 tablets

Literature and a prescription package of 24 tablets will be sent upon request.

Whittier
LABORATORIES
DIVISION NUTRITION RESEARCH LABORATORIES, INC.
CHICAGO 11, ILLINOIS

Caution: In some individual cases there may be drowsiness or dizziness.

USE CHLORAMPHENICOL TO TREAT INTESTINAL INFECTION

Chloramphenicol, an antibiotic, is being used with some success by two New York doctors in the management of Salmonella infection, an acute intestinal infection, according to an article in a recent issue of the *Journal of the American Medical Association.*

Drs. H. A. Weiner of Staten Island and John B. Liebler of Brooklyn report that although the antibiotic does not cure the infection, it does have a preventive or arresting effect on the growth of the bacteria, thus permitting the body to muster defenses against the infection.

The complex group of bacteria causing the infection are about 200 in number, the doctors said, pointing out that one or more types of Salmonella bacteria may be present in any one particular infection.

Distribution of Salmonella infection is known to be world-wide. Some persons, while not afflicted with acute manifestations of the disease, harbor the germs in their bodies and act as carriers or distributors of the infection, it was pointed out. In addition, over 40 animals, including fowl and lower mammals, have been found to carry the organisms. The doctors said the greatest reservoirs of infection in the United States are fowl and swine and that the bacteria have frequently been found in water, sewage, eggs, egg powder and a wide variety of food products.

ALUM ROCK SANATORIUM
SAN JOSE, CALIFORNIA

Telephone Clayburn 8-4921

A Non-Profit Sanatorium for the treatment of tuberculosis and other diseases of the chest.

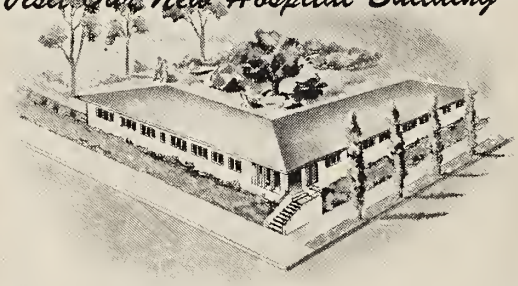
MEDICAL DIRECTOR
Buford H. Wardrip, M.D.

ASSOC. MEDICAL DIRECTOR
C. Gerald Scarborough, M.D.

VISITING MEDICAL STAFF:
Harold Guyon Trimble, M.D., Oakland
Cabot Brown, M.D., San Francisco
J. Lloyd Eaton, M.D., Oakland
H. Corwin Hinshaw, M.D., San Francisco
Gerald L. Crenshaw, M.D., Oakland
Glenroy N. Pierce, M.D., San Francisco
Ina Gourley, M.D., Oakland
James Robert Wood, M.D., Oakland
W. Dale Peterson, M.D., San Francisco

CONSULTING PATHOLOGIST: E. Gwyn Roberts, M.D., San Francisco

Visit Our New Hospital Building



Serving the Medical Profession Since 1935

HYGEIA SANATORIUM

Finest, Modern Accommodations for Treatment of Nervous Cases and

ALCOHOLICS

•

Conditioned Reflex Aversion Method Treatment and Consultation Rooms for Visiting Physicians
Facilities Available for Shock Therapy

•

Recognized by the American Medical Association

2534 BEVERLY BOULEVARD • LOS ANGELES 4, CALIF.
DUnkirk 8-8178

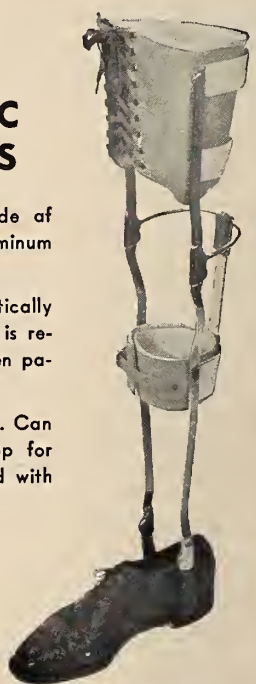
for . . .

ORTHOPEDIC APPLIANCES

This long leg brace is made af stainless steel and strang aluminum alloy.

The knee jaints lock autamatically when leg is extended. Lock is released by edge of chair when patient sits.

Ankle jaint is at actian level. Can have spring lift ar 90° stop for drap faot. Stirrup is covered with leather ta match shoe.



△

Established 1893

"Two Generations of Appliance Makers"

△

M. J. BENJAMIN

501-518 Paramount Theatre Bldg.
Two Elevator Entrances
323 WEST 6th ST. 536 SO. HILL ST.
Phone MAdison 1593 • LOS ANGELES

When Lactation Fails

℞ LACTOGEN®

When the supply of breast milk is inadequate or when lactation fails entirely, there is no better formula than Lactogen. Designed to resemble mother's milk, it consists of whole cow's milk modified with milk fat and milk sugar. It differs, however, in one important respect: the protein content of Lactogen in normal dilution is one-third greater than that of mother's milk—2.0% instead of 1.5%.

A Complete Infant Formula In One Package

Lactogen contains all the ingredients of a well-balanced infant formula. In addition, it is fortified with iron to compensate for the deficiency of this mineral in milk.

Easily Prepared . . . Merely Add Water

Lactogen is simple to use. The prescribed amount is stirred into warm, previously boiled water. Either a single feeding can be prepared, or the entire day's quantity can be made up and stored in the refrigerator until used.

THE NESTLÉ COMPANY, INC.
COLORADO SPRINGS, COLORADO

Makers of Nestlé's Evaporated Milk
"No Finer Milk Can Be Produced"

ACCEPTED COUNCIL ON FOODS AND NUTRITION AMERICAN MEDICAL ASSOCIATION

NOTABLY HIGH IN PROTEIN CONTENT
Lactogen contains a generous amount of protein . . . more than enough to satisfy every protein need of the rapidly growing infant.

BOOKS RECEIVED

ANNOTATED BIBLIOGRAPHY OF VITAMIN E, 1940-1950—Compiled by Philip L. Harris and Wilma Kujawski of the Research Laboratories of Distillation Products Industries, Rochester, New York, 1950. Order through The National Vitamin Foundation, Inc., 150 Broadway, New York 7, N. Y. $3.00.

CANCER AS I SEE IT—Henry W. Abelmann, M.D., The Philosophical Library, New York, 1951. 100 pages. $2.75.

CORNELL CONFERENCES ON THERAPY—Volume Four—Edited by Harry Gold, M.D., Managing Editor, David P. Barr, M.D., McKeen Cattell, M.D., Frank Glenn, M.D., Walter Modell, M.D., and George Reader, M.D. The Macmillan Company, New York, 1951. 342 pages. $3.50.

DIABETES MELLITUS — Principles and Treatment — Garfield G. Duncan, M.D., Clinical Professor of Medicine, Jefferson Medical College. Illustrated. W. B. Saunders Company, Philadelphia, 1951. 289 pages. $5.75.

DOCTOR, THE—His Career, His Business, His Human Relations—Stanley R. Truman, M.D. The Williams and Wilkins Company, Baltimore, 1951. 151 pages. $3.00.

ETERNAL EVE—The History of Gynecology and Obstetrics—Hervey Graham. Doubleday & Company, Inc., Garden City, N. Y., 1951. 699 pages. $10.00.

HANDBOOK OF DIAGNOSIS AND TREATMENT OF VENEREAL DISEASES—A. E. W. McLachlan, M.D., Ch.B. (Edin.), D.P.H., F.R.S. (Edin.), Consultant in Venereal Diseases, Bristol Clinical Area; Lecturer in Venereal Diseases, University of Bristol; Honorary Consultant in Venereal Diseases, Bristol General Hospital. With 160 illustrations, 20 in color. Fourth Edition. The Williams and Wilkins Company, Baltimore, 1951. 368 pages. $4.50.

HANDBOOK OF DISEASES OF CHILDREN, A—Including Dietetics and the Common Fevers—Bruce Williamson, M.D. (Edin.), F.R.C.P. (Lond.), Physician, Children's Dept., Royal Northern Hospital, London. Sixth Edition. The Williams and Wilkins Company, Baltimore, 1951. 440 pages. $4.50.

HISTORY OF NURSING, A—Gladys Sellew, Ph.D., R.N., Chairman of Department of Sociology and Social Work, Rosary College, River Forest, Illinois; and C. J. Nuesse, Ph.D., Assistant Professor of Sociology, The Catholic University of America, Washington, D. C. Second Edition. The C. V. Mosby Company, St. Louis, 1951. 437 pages. $3.75.

INTRODUCTION TO UNIVERSAL SEROLOGIC REACTION IN HEALTH AND DISEASE, AN—Reuben L. Kahn, D.Sc., University of Michigan Medical School and Hospital, Ann Arbor. The Commonwealth Fund, 41 East 57th St., New York 22. 1951. 155 pages. $3.50.

MEDICINE OF THE YEAR—1951—John B. Youmans, M.D., Editor, Dean, School of Medicine, Vanderbilt University.

NEUROSES, THE—Diagnosis and Management of Functional Disorders and Minor Psychoses—Walter C. Alvarez, M.D., Professor of Medicine, Emeritus, Mayo Foundation, University of Minnesota. W. B. Saunders Company, Philadelphia, 1951. 667 pages. $10.00.

PERSONNEL ADMINISTRATION IN PUBLIC HEALTH NURSING—William Brody, Director of Personnel, New York City Department of Health. Illustrated. The C. V. Mosby Company, St. Louis, 1951. 209 pages. $3.25.

PERSPECTIVES IN HUMAN MALNUTRITION — A Contribution to the Biology of Disease from a Clinical and Pathological Study of Chronic Malnutrition and Pellagra in the African—Joseph Gillman, D.Sc., M.B., B.Ch., and Theodore Gillman, M.Sc., M.B., B.Ch., Departments of Physiology and Anatomy, Medical School, University of Witwatersrand, Johannesburg, South Africa. Grune and Stratton, New York, 1951. 584 pages. $18.00.

PIONEER DOCTOR—Lewis J. Moorman, M.D., University of Oklahoma Press, Norman, Oklahoma, 1951. 252 pages. $3.75.

SOMATIC DEVELOPMENT OF ADOLESCENT BOYS—A Study of the Growth of Boys During the Second Decade of Life—Herbert Rowell Stolz, M.D., and Lois Meek Stolz, Ph.D. The Macmillan Company, New York, 1951. 557 pages. $9.00.

SURGICAL FORUM—Proceedings of the Forum Sessions, 36th Clinical Congress of the American College of Surgeons, Boston, Massachusetts, October 1950—Surgical Forum Committee. W. B. Saunders Company, Philadelphia, 1951. 665 pages. $10.00.

SYNOPSIS OF SURGICAL ANATOMY, A — Alexander Lee McGregor, M.Ch. (Edin.), F.R.C.S. (Eng.), Senior Surgeon, Johannesburg General Hospital. Seventh Edition. 746 illustrations by Dr. E. A. Thomas. The Williams and Wilkins Company, 1950. 778 pages. $6.50.

TEXTBOOK OF PHYSIOLOGY AND BIOCHEMISTRY — George H. Bell, B.Sc., M.D. (Glasg.), F.R.F.P.S.G., F.R.S.E., Professor of Physiology in the University of St. Andrews at University College, Dublin; J. Norman Davidson, M.D., D.Sc. (Edin.), F.R.F.P.S.G., F.R.I.C., F.R.S.E., Gardiner Professor of Physiological Chemistry in the University of Glasgow; and Harold Scarborough, M.B., Ph.D. (Edin.), F.R.C.P.E., Professor of Medicine in the Welsh National School of Medicine of the University of Wales. The Williams and Wilkins Company, Baltimore, 1950. 918 pages. $9.00.

TEXTBOOK OF X-RAY DIAGNOSIS, A—Volume II—The Chest—Edited by S. Cochrane Shanks, M.D., F.R.C.P., F.F.R., Director X-Ray Diagnostic Department, University College Hospital, London; and Peter Kerley, M.D., F.R.C.P., F.F.R., D.M.R.E., Director X-Ray Department, Westminster Hospital. 605 illustrations. Second Edition. W. B. Saunders Company, Philadelphia. 1951. 702 pages. $15.00.

TREATMENT OF ASTHMA—Somatic and Psychiatric—Edited by Harold A. Abramson, M.D., Associate Physician and Chief, Allergy Clinic, The Mount Sinai Hospital, New York. The Williams and Wilkins Company, Baltimore, 1951. 751 pages. $11.00.

WHEELER AND JACK'S HANDBOOK OF MEDICINE —Revised by Robert Coope, M.D., B.Sc., F.R.C.P., Physician, Liverpool Royal Infirmary; Consulting Physician, King Edward VII Sanatorium, Midhurst; Lecturer in Clinical Medicine, Applied Physiology and Clinical Chemistry, University of Liverpool. Eleventh Edition. The Williams and Wilkins Company, Baltimore. 1950. 648 pages. $5.00.

ARE YOU READING

Rx Reading

—C.M.A.'s new news letter?

Issued monthly . . . news capsules . . . look for it.

in daily practice... **combat** the troublesome triad:

PAIN

DEPRESSION

SPASM

WITH **azurets**

Whenever *pain, depression or spasm* block the road to recovery, AZURETS provide prompt and effective relief.

A valuable palliative agent in a wide variety of disorders, AZURETS are particularly indicated in rheumatic and other musculo-skeletal disorders, dysmenorrhea, and the aftermath of alcoholic excess. By virtue of four components, in balanced combination, AZURETS produce:

Prompt Analgesia through the action of acetylsalicylic acid.

Relief of Mental Depression mediated by the cerebral stimulant action of amphetamine phosphate.

Inhibition of Spasm without undesirable side action through homatropine methylbromide.

Restoration of Normal Nerve Function through the neurotonic action of thiamine hydrochloride.

azurets help get your patients back to work sooner . . . not only by relieving their physical symptoms . . . but also by elevating mood and fostering the "will to work."

azurets: Available in bottles of 100 tablets.
Dosage: One or two tablets two or three times daily.

each azuret contains:

Acetylsalicylic Acid	300 mg.
Thiamine Hydrochloride	10 mg.
Homatropine Methylbromide	1.25 mg.
Amphetamine Phosphate	2.5 mg.

Laboratories, INC • MILWAUKEE 1, WISCONSIN

Advertisers in your OFFICIAL JOURNAL *will appreciate requests for literature*

PEPTIC ULCER RELIEVED BY SEVERANCE OF NERVE

Surgical severance of the vagus nerve, which controls sensation and action in most of the abdominal organs, is an effective therapy for peptic ulcers which do not respond to medical treatment, according to two Chicago surgeons.

A peptic ulcer is seated on the mucous membrane of the stomach or duodenum, the first part of the small intestine, and is caused by the action of acid gastric juice. The condition has been attributed to nervous tensions.

Based on a seven-year study of the results of all vagotomies, as the operation is called, at the University of Chicago Clinics, Dr. Lester R. Dragsted and Dr. Edward R. Woodward concluded that "this is a relatively safe, efficient and practical method of surgical treatment." They reported their findings in a recent issue of the *Journal of the American Medical Association*.

Dr. Dragsted is head of the department of surgery in the University of Chicago School of Medicine. Dr. Woodward was formerly associated with the department but is now in the Army Medical Corps and is serving overseas.

In the period covered by their studies, vagotomies were performed on 509 patients. They reported:

"Four hundred and eight (80 per cent) of these patients are entirely well at the present time and are

(Continued on Page 80)

THE POTTENGER SANATORIUM and CLINIC

For Diseases of the Chest *Monrovia, California*

AN INSTITUTION FOR DIAGNOSIS AND THERAPY
(Established 1903)

CHOICE rooms and bungalows. Rates moderate and include routine medical and nursing services, interim physical, X-ray and laboratory examination, ordinary medicines and pneumothorax. A charge is made for the first complete examination.

In the foothills of the Sierra Madre Mountains, thirty-five miles from the ocean. Surrounded by beautiful gardens.

Close medical supervision. Aside from tuberculosis, special attention is given to asthma, bronchiectasis, lung abscess and kindred diseases. Separate intitution for children.

For particulars address:

THE POTTENGER SANATORIUM AND CLINIC • Monrovia, Calif.

THE MEDICAL PROTECTIVE COMPANY
FORT WAYNE, INDIANA

Professional Protection Exclusively since 1899

LOS ANGELES Office:
D. C. Seeman, Representative,
417 First Trust Bldg., Pasadena
Telephone RYan 1-6981
and SYcamore 3-0676

SAN FRANCISCO Office:
Gordon C. Jones, Representative,
1735 Sweetwood Drive
Telephone Plaza 5-4478

A REQUEST
for
CHANGE OF ADDRESS

...must reach us at least three weeks before the date of issue with which it is to take effect. Duplicate copies cannot be sent to replace those undelivered through failure to send such advance notice. With your new address be sure to send us the old one, enclosing, if possible, your address label from a recent copy.

CALIFORNIA MEDICINE
Room 2009
450 Sutter Street San Francisco 8

Advertisers in your OFFICIAL JOURNAL *will appreciate requests for literature*

Varicose Veins during Pregnancy

In estimating the value of support of the abdominal wall during pregnancy a prominent Obstetrician states, among other items, the following: —*

"By supporting the abdominal wall, it holds the growing uterus in place. Thus the feeling of weight and discomfort is lessened and, at the same time, interference with the return circulation from the lower extremities is diminished. Accordingly, edema of the ankles and varicosities occur much less frequently when a good maternity corset is worn."

• Patient 32 years old, gravida IX, para VII. Severe varicosities of both legs and vulva; noticed with first pregnancy, increasing with each succeeding pregnancy. Came to clinic when in seventh month of pregnancy.

• Same patient: No support worn in previous pregnancies. Patient states she has had some relief from varicosities since wearing the garment. Relief especially as regards tiredness; can go longer each day.

Education of mothers to see their physicians early in pregnancy is still sorely needed. Camp Supports are recommended by many Obstetricians.

**Alfred C. Beck, M.D., Obstetrical Practice, Fourth Edition, Chapter IX, Page 181, Published 1947 by The Williams & Wilkins Company, Baltimore*

CAMP Supports

S. H. CAMP and COMPANY • JACKSON, MICHIGAN

World's Largest Manufacturers of Scientific Supports

Offices at: 200 Madison Ave., New York; Merchandise Mart, Chicago; Windsor, Ont.; London, Eng.

PEPTIC ULCER RELIEVED BY SEVERANCE OF NERVE

(Continued from Page 74)

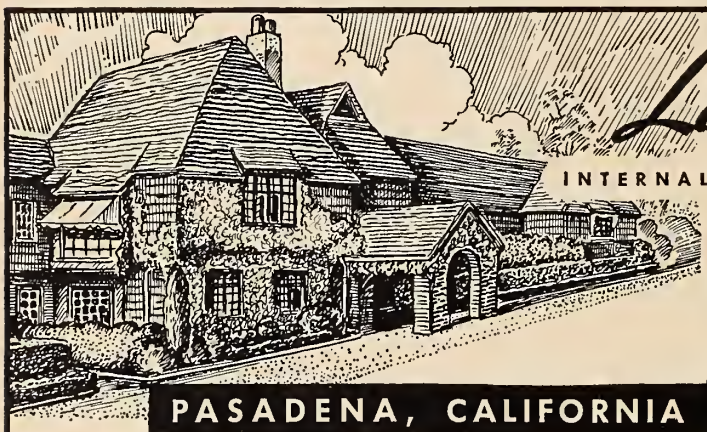
back at their usual occupations on unrestricted diets without any type of medication. Fifty-four (11 per cent) are apparently free of active ulcer disease but complain of some gastrointestinal symptoms, so that the results cannot be considered entirely satisfactory. Forty-seven (9 per cent) of the operations are considered failures."

To indicate the progress made in the technique, they analyzed the last 100 cases of the series, reporting good results in 87 per cent of the cases and fair results in 13 per cent. They added:

"There were no cases in which the ulcers failed to heal or symptomatic relief was not obtained and in which there were other disabling complications."

In some instances, vagotomy was performed in combination with gastroenterostomy, an operation which creates an artificial passage between the stomach and the intestines.

The beneficial effect of vagotomy is due to the decrease in gastric secretion produced by the elimination of the nervous phase of stimulation, it was pointed out. There is now satisfactory proof that patients with duodenal ulcers differ from normal persons in that they secrete an excessive amount of gastric juice in the fasting stomach between meals and as the result of the stimulus of food and other substances, they said.



Las Encinas
SANITARIUM
INTERNAL MEDICINE • NERVOUS DISORDERS
PASADENA, CALIFORNIA

MEDICAL STAFF
CHARLES W. THOMPSON, M.D., F.A.C.P.
DIRECTOR
CLIFTON H. BRIGGS, M.D., F.A.C.S.
ASSOCIATE DIRECTOR
ETHEL FANSON, M.D.
DOUGLAS R. DODGE, M.D.
CARLOS F. SACASA, M.D.
HERBERT A. DUNCAN, M.D.
KENNETH P. NASH, M.D.
STEPHEN SMITH, III, M.D.

a reliable
quick acting
SEDATIVE SPASMOLYTIC
ELDONAL
CANRIGHT

A well balanced Belladonna derivative farmula—plus PENTObarbital—withaut undesirable side effects or cumulative reactians.

Formula
Each tablet contains:
Hyoscyamine Sulfate.....0.156 mg.
Atropine Sulfate.....0.029 mg.
Hyoscine Hydrobromide..0.01 mg.
PENTObarbital
Sodium (1/4 gr.).....16.2 mg.

Other Canright Quality
Prescription Specialties
DIGESTANT • MATRIGEL • ELPRECAL
ELDOVITE • OBRICAL • HEMATINIC
HEMAFOLATE

ELDON H. CANRIGHT COMPANY
INCORPORATED
GLENDALE, CALIF. • ORLANDO, FLORIDA

...The Institute for
CHILD STUDY

A unified program for the study and personality adjustment of children. Services now offered include counselling; guidance; psychological testing; speech pathology; play therapy and educational therapy.

TRACY J. PUTNAM, M.D.
President

LOUISE J. GORDY, M.D.
Consultant Psychiatrist

ELISE HAHN, Ph.D.
Speech Pathologist

LILLIAN S. SLAFF, M.S.W.
Consultant Psychiatric Social Work

DAVID H. FILS, Ph.D.
Consultant Psychologist

O. E. HOOD, M.S.
Executive Director

450 N. Bedford Drive, Beverly Hills, Calif.
Telephone: CRestview 4-5304

COMBINE GOLD, ACTH THERAPY IN RHEUMATOID ARTHRITIS

A report by two Pittsburgh physicians on the combined use of ACTH and gold in the treatment of patients suffering from rheumatoid arthritis indicates that in some cases extended remission of the disease is possible.

ACTH has been widely used in recent months in the treatment of chronic diseases such as rheumatoid arthritis, resulting in temporary relief from the disabling and painful aspects of the disease. Gold therapy has also been used, achieving remission of the activity of the disease in a limited number of cases.

Doctors Harry M. Margolis and Paul S. Caplan, of the University of Pittsburgh School of Medicine and St. Margaret Memorial and Montefiore hospitals, writing in a recent issue of the *Journal of the American Medical Association*, report on the results obtained in their study of 23 patients who were given both ACTH and gold.

Seven of their patients to whom the administration of the hormone has been discontinued entirely for periods ranging from 30 days to 7½ months are maintaining their remission without relapse of the arthritis.

Ten of the number are maintaining their remission but are still receiving ACTH along with gold

(Continued on Page 88)

THE CALIFORNIA SANATORIUM

Fully equipped for the diagnosis and modern treatment of diseases of the chest, including tuberculosis and other respiratory diseases

BELMONT, CALIFORNIA

Telephone: LYtell 3-2171

San Francisco Office:
536 Mason Street
Phone DOuglas 2-5793

THOMAS B. WIPER, M.D.
Director and Consultant in Thoracic Surgery

ALLEN A. LILIENTHAL
W. N. TORRE, M.D.
Resident Clinicians

RALEIGH HILLS SANITARIUM, Inc.

Recognized by the American Medical Association

Member: American Hospital Association

Exclusively for the treatment of

Chronic Alcoholism

by the Conditioned Reflex and Adjuvant Methods

MEDICAL STAFF

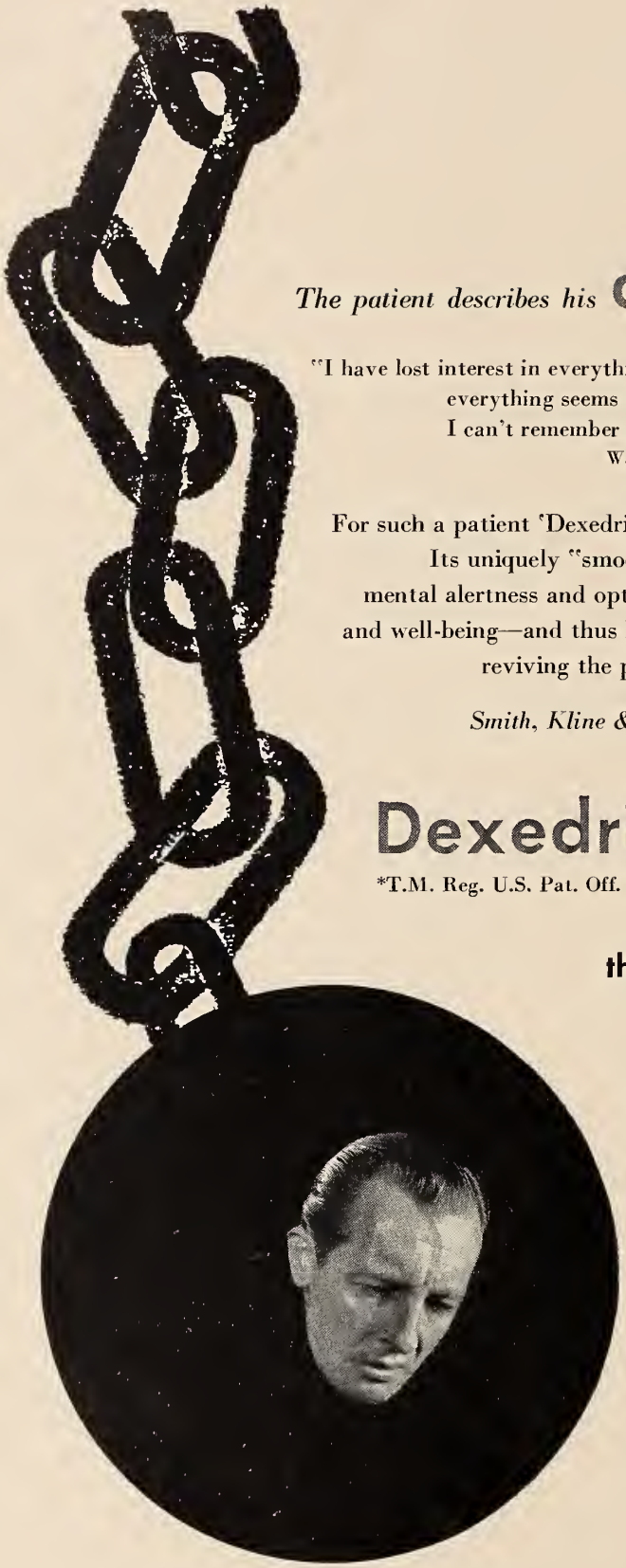
Ernest L. Boylen, M.D.
William C. Panton, M.D.
James G. Perkins, M.D.
John R. Montague, M.D.
John W. Evans, M.D.
Psychiatrist

B. S. P. MILES, Administrator

S. W. Scholls Ferry Road
P. O. Box 366 Portland 7, Oregon
Telephone CHerry 1144

Rooms again *Available* especially
FRIDAYS • SATURDAYS
SUNDAYS
THE BILTMORE HOTEL
LOS ANGELES

DINING AND DANCING *in the World Famous* BILTMORE BOWL
Two Floor Shows Nightly
8:45 and 11:45
WRITE • WIRE • TELEPHONE MICHIGAN 1011



The patient describes his **depression:**

"I have lost interest in everything—I have no ambition any more—
everything seems futile—I feel frustrated and lonely—
I can't remember or concentrate—I am *all slowed up.*"
Washburne, A.C.: Ann. Int. Med *32*:265, 1950.

For such a patient 'Dexedrine' Sulfate is of unequalled value. Its uniquely "smooth" antidepressant effect restores mental alertness and optimism, induces a feeling of energy and well-being—and thus has the happy effect of once again reviving the patient's interest in life and living.

Smith, Kline & French Laboratories, Philadelphia

Dexedrine* Sulfate

*T.M. Reg. U.S. Pat. Off. for dextro-amphetamine sulfate, S.K.F.

the antidepressant of choice

tablets

elixir

A rich source of B complex factors

pleasantly flavored Natural B-Complex Elixir

Elixir Galen "B"® Fortified provides, in a highly palatable form, all the factors of the vitamin B complex, both known and as yet unidentified, present in the rich natural B complex source—rice bran.

Each fluid ounce of Elixir Galen "B" Fortified contains:

Thiamine (B_1)	10.0 mg.
Riboflavin (B_2)	5.0 mg.
Niacin	30.0 mg.
Niacinamide	30.0 mg.
Pyridoxine (B_6)	4.5 mg.
Pantothenic acid	12.0 mg.
Inasital	112.0 mg.
Choline	150.0 mg.
Biatin	0.15 mg.
Iron (as iron and ammanium citrate)	32.0 mg.
Manganese citrate	16.0 mg.

... plus all ather factars of the B complex group natural ta rice bran.

ELIXIR GALEN "B" FORTIFIED

... fortified with added B_1 and B_2

Supplied:
In bottles of 8 fluid ounces, 1 pint and 1 gallon.

Rare-Galen Division of
WHITE LABORATORIES, INC.
Pharmaceutical Manufacturers, Newark 7, N. J.

COMBINE GOLD, ACTH THERAPY IN RHEUMATOID ARTHRITIS

(Continued from Page 81)

therapy. The remaining six have discontinued treatment for various reasons.

The importance of the continued remission in the seven patients despite discontinuance of ACTH is due to the fact that the beneficial effects of ACTH given alone generally last only as long as the hormone is taken, relapses developing either immediately or shortly after cessation of treatment, they explained.

In addition, their recent research with a group of patients receiving ACTH alone revealed that the degree of improvement has a marked tendency toward deterioration with long continued administration. The effect of long continued administration with the increased tendency toward production of undesirable side effects and deterioration of benefit obtained introduces many serious problems, they added.

The report continued in part:

"It is obvious that if these preliminary observations should prove significant, the employment of chrysotherapy along with ACTH would point to one possible means of using the hormone for only a limited time with possible maintenance of the remission subsequently.

"It is, of course, possible that some of the patients who had received chrysotherapy with ACTH would

(Continued on Page 96)

The Colfax Hospital for the Tuberculous

(Formerly a Unit of the Colfax School for the Tuberculous)

Colfax, California

For the Treatment of Pulmonary Tuberculosis

Vernon W. Padgett, M.D.
Medical Director
Colfax, California

Robert A. Peers, M.D., F.A.C.P.
Consultant
Colfax, California

Emile F. Holman, M.D., F.A.C.S.
Thoracic Surgeon
Stanford Hospital

Let Waiting Patients

READ

TODAY'S HEALTH

TODAY'S HEALTH is the one source of reliable information for lay people, and is doing an excellent job in educating the public on the important problems of health in a language which can be understood by everyone.

1 year, $3.00 • 2 years, $5.00

AMERICAN MEDICAL ASSOCIATION

535 N. DEARBORN CHICAGO 10

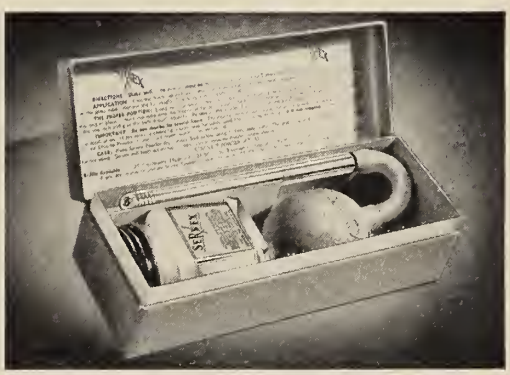
For more than a quarter of a century, Servex products have been prescribed with confidence by physicians because Servex meets and satisfies the most exacting requirements of medical authorities. Servex is simple and easy to use, has complete tolerability, immobilizes sperm almost instantly, and possesses a reliable barrier effect because of its exceptional adhesive and cohesive properties.

SERVEX

Jelly Tube Sets and Refills

Servex Vaginal Jelly contains lactic acid, coconut oil soap and the strongly spermicidal nitrophenolate of mercury. It is indicated when natural secretian is scanty.

WHEN THE YOUNG WIFE ASKS HER PHYSICIAN'S ADVICE



SERVEX

Powder Set

Servex Powder contains nitraphenalate of mercury; quinine sulphate, axyquinaline sulphate, and baric acid and is recammended for use in the presence of narmal, adequate secretian.

File cards on all Servex Products, a useful booklet, "Notes to Physicians" and 4-color cards, "the Menstrual Cycle", will be promptly supplied on request.

SERVEX INC.

"A Quarter Century of Dependability"

5107 North Figueroa Street
Los Angeles 42, California

COMBINE GOLD, ACTH THERAPY IN RHEUMATOID ARTHRITIS

(Continued from Page 88)

have responded equally well to gold therapy alone. Even if it may be assumed that a similar result might eventually have been obtained with chrysotherapy alone, we are impressed with the value of the addition of the hormone.

"We may regard its [ACTH's] addition to chrysotherapy as a 'holding action' designed to prevent further structural deterioration and deformities and to induce immediate functional rehabilitation months before gold therapy is far enough advanced to assert its possible benefit.

"Much further study of this possible means of using the substance effectively with chrysotherapy is required."

HEPATITIS IS OCCUPATIONAL HAZARD TO MEDICAL PERSONNEL

A liver infection called hepatitis has proved to be a definite hazard to medical personnel working with blood and blood derivatives, two Memphis physicians wrote in a recent issue of the *Journal of the American Medical Association.*

The physicians, Drs. Merlin L. Trumbull and D. J. Greiner, said the disease can be transmitted by minute quantities of infected blood or serum introduced into the system through a small opening or scratch in the skin.

In four Memphis hospitals during a three-year period, 16 cases of hepatitis occurred among medical personnel, the doctors reported. In all cases the patients had occupations which exposed them to blood or serum; many of them reported previous

(Continued on Page 97)

HAVE YOU CHANGED YOUR ADDRESS RECENTLY?

To insure uninterrupted delivery of your copies of CALIFORNIA MEDICINE, please return this coupon properly filled out. Address CALIFORNIA MEDICINE, 450 Sutter Street, Room 2009, San Francisco 8, California.

Name.....M.D.
(PLEASE PRINT)

Former address:
Street.....
City.....
Zone.....State.....

New address:
Street.....
City.....
Zone.....State.....

(Please use this coupon for address change only)

Duplicate copies cannot be sent to replace those undelivered through failure to notify this office of change of address.

WHEN YOU THINK "COLLECTIONS"
Think—"THE DOCTORS BUSINESS BUREAU"

THE OLDEST...THE LARGEST...THE BEST

AND

YOU CANNOT DO BETTER THAN THE BEST

OUR MOTTO:
"Persuasion Prevails Where Force Fails"

THE DOCTORS BUSINESS BUREAU

Call or Write Your Nearest Office:

Spreckels Bldg., Los Angeles 14
TRinity 1252
153 Kearny Street, San Francisco 8
GArfield 1-0460

Latham Square Bldg., Oakland 12
GLencourt 1-8731
Heartwell Bldg., Long Beach
Phone 632-29

HEPATITIS IS OCCUPATIONAL HAZARD TO MEDICAL PERSONNEL

(Continued from Page 96)

scratches or needle pricks on hands while working with blood. None of the 16 had received transfusions or immunizations for at least a year prior to their illnesses, nor did they give histories of previous diseases suggestive of hepatitis.

In every instance, the onset of their illnesses was gradual, with loss of appetite, nausea and frequent vomiting or diarrhea before jaundice.

The doctors believe hepatitis among medical personnel may increase. They attribute this possible increase to the expanding use of blood and its derivatives.

They reported that in a survey of occupational diseases among the medical personnel in two of the hospitals mentioned in the report, hepatitis was the most common during this three-year period.

According to the article, the best protection against this occupational form of hepatitis at present is strict adherence to the rules governing the handling of any diseased or infected substance. Wearing gloves, careful sterilization of all instruments, especially those penetrating the skin, marking bottles containing known infected blood, and avoidance of spilling blood on the hands were a few precautions mentioned.

- Read the advertising pages.
- Show your interest by correspondence and patronage.
- Support those firms who advertise in your state Journal.

Sodium Gentisate: A New Approach to the Treatment of Arthritis

It has been estimated[1] that nearly 7,000,000 people in the United States have some form of "rheumatic" disease. Rheumatism (with arthritis the most important single cause) ranks first in prevalence among diseases, and second in the production of disability and invalidism. It is more common than the total number of cases of tuberculosis, diabetes, cancer and heart disease combined.

The most common of the severe forms of the arthritides is rheumatoid arthritis. Since Klinge's[2] original work in 1929, evidence has been accumulating that both rheumatic fever and rheumatoid arthritis are diseases of the interfibrillar substance of the connective tissue[3]. The nature of this material is not well understood, although it is presumably a mucopolysaccharide in combination with a protein. This theory holds that changes in the cellular components are secondary to changes in the interfibrillar material. The composition of two of the mucopolysaccharides found in interfibrillar material is known: (a) chondroitin sulfuric acid and (b) hyaluronic acid[4].

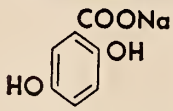
Changes in the hyaluronic acid of the joint fluid have been shown to be present in active rheumatoid arthritis[5,6]. These changes in active disease involve a depolymerization of the hyaluronic acid. The excessive presence of hyaluronidase, moreover, has been acknowledged to produce a denaturization of mucin in the synovial fluid, the varying degrees of which are valuable for their diagnostic as well as prognostic indications[7]. Clinicians[8] have concluded that the increase of hyaluronidase activity may be responsible for the breakdown of interfibrillar cement.

A rational approach to the problem, therefore, demands a therapeutic agent that will act to inhibit the spreading effect of hyaluronidase. Gentarth Tablets provide just such an agent, sodium gentisate.

Meyer and Ragan[9] treated patients having rheumatoid arthritis and acute rheumatic fever with sodium gentisate. Their results were uniform and notably favorable. Within a few days there followed a disappearance of pain, swelling and joint inflammation.

The favorable therapeutic effects of sodium gentisate have been confirmed by other investigators,[10,11] Gorsuch[12] reporting that the "therapeutic efficacy of sodium gentisate has exceeded that of salicylates and its antirheumatic properties apparently exceed those of an analgetic and antipyretic action".

The increase in urinary glucuronic acid observed with salicylates does not occur with gentisates. This phenomenon has been assigned to the rapid oxidation of the gentisates[13]. It is indeed likely that the antirheumatic action of the salicylate in forestalling the spread of hyaluronidase[14] is attributable to its partial oxidation in the body to a gentisate.



SODIUM GENTISATE

The corrective action of sodium gentisate is generally not an immediate one; therefore, as an added therapeutic measure, a salicylate, which provides prompt relief from pain, should be included in the formula.

Boyd *et al.*[15] treated 80 patients suffering from different arthritic diseases with sodium gentisate combined with salicylates and also with salicylates alone; they found the gentisate-salicylate composition (GENTARTH) to be the more effective, with best results following its use in patients suffering from rheumatoid arthritis and fibromyositis. The relief afforded by the sodium gentisate component in these diseases appears to be unmistakable. These investigators also found GENTARTH to be remarkably free from toxic effects, no untoward symptoms having developed in any patient. This finding confirms the observations of Mulinos[16] that GENTARTH has a very low order of toxicity, both chronic and acute, in animals.

The product of choice, therefore, should be GENTARTH Tablets prepared by the Raymer Pharmacal Company of Philadelphia, pioneer producers of gentisate medication.

Each salol-coated GENTARTH Tablet contains:

Sodium Gentisate	100 mg.
Raysal	325 mg.
(representing 43% Salicylic Acid and 3% Iodine in a Calcium-Sodium Phosphate Buffer Salt Combination)	
Succinic Acid	130 mg.

The recommended dosage is two to four tablets three or four times daily (after meals and before bedtime).

GENTARTH Tablets are supplied in bottles of 100, 500 and 1,000 and are available at all pharmacies on prescription.

1. Hench, P. S. et al.: Ninth Rheumatism Review, Ann. Int. Med., 28:66 (1937).
2. Klinge, F. & Grzimek, N.: Virchow's Arch. f. Path. Anat., 284:646 (1932).
3. Meyer, K.: Phys. Rev., 27:335 (1947).
4. Comroe, B. I.: Arthritis and Allied Conditions, Phila., Lea & Febiger, 4th Ed. (1949).
5. Ragan, C.: Ann. Rheum. Dis., 7:35 (1948).
6. Ropes, M. W.: Ann. Rheum. Dis., 7:35 (1948).
7. Ropes, M. W., et. al.: Acta. Med, Scand., Suppl., 196 (1947).
8. Meyer, K. & Ragan, C.: Mod. Concepts of Card. Disp., 17:2 (1948).
9. Meyer, K. & Ragan, C.: Feder. Proc., 7:173 (1948); Science, 108:281 (1948).
10. Schaefer, L. E. et al.: Circulation 2:265 (1950).
11. Camelin, A. et al.: La Presse Medicale 58:889 (1950).
12. Gorsuch, M. T., Medical Woman's J. 57:9 (Sept. 1950).
13. Quick, A. J.: J. Biol. Chem., 101:475 (1933).
14. Guerra, J.: J. Pharm. Exp. Ther., 87:1943 (1946).
15. Boyd, L. J., Lombardi, A. A. and Svigals, C.: New York Med. College Bull. (Dec. 1950).
16. Mulinos, M. G.: Personal communication.

Send request for sample and literature on your prescription form to Raymer Pharmacal Company, Philadelphia 34, Pa.

(Advertisement)

the Ca:P ratio is the key

A uniformly high calcium-phosphorus ratio . . . adjusted in BREMIL to a guaranteed minimum of 1½ parts calcium to 1 part phosphorus . . . this is the nutritional key to the prevention of hypertonicity, hyperirritability, and other tetanic symptoms in infants.

Gardner, Butler, et al., state: "Relative to human milk, cow's milk has a low Ca:P ratio . . ."[1] Nesbit writes: "Tetany of the newborn is now recognized as a definite entity . . . and often accompanied by an increased phosphorus and lowered blood calcium."[2] Dodd comments that "hypocalcemia tetany in the newborn may be of serious consequence."[3]

BREMIL . . . newest product of Borden research . . . is a completely modified milk in which nutritionally essential elements of cow's milk have been adjusted in order to supply the nutritional requirements of infants deprived of human milk. BREMIL is therefore a human milk replacement to which physicians can turn with confidence for uninterrupted good results.

human milk	Bremil (*reconstituted*)	
0.034%	0.078%	
315 mg.	768 mg.	per qt.
.015%	.052%	
128 mg.	512 mg.	per qt.
.041%	.078%	
480 mg.	750 mg.	per qt.
.00018%	.00082%	
5 mg.	8 mg.	per qt.

But an adjusted Ca:P ratio is not the only attribute that makes Bremil new and unique

BREMIL has the fatty acid and amino acid patterns of human milk . . . the same carbohydrate (lactose) . . . vitamin adjustments to meet the recommended standards of infant nutrition[4] . . . a soft, flocculent curd of small particle size comparable to human milk . . . complete solubility.

Just as with human milk you can start the infant on BREMIL the day it is born. Standard dilution is 1 level tablespoonful and 2 fl. oz. water, although BREMIL can be either concentrated or diluted. Each level tablespoonful BREMIL powder supplies 44 calories. BREMIL is easy to prepare and can be mixed for a single feeding or a 24-hour period.

Complete information and a trial supply may be obtained upon request. BREMIL is available in drugstores in 1 lb. cans.

1. Gardner, L. I., Butler, A. M., et al.: *Pediatrics* 5:228, 1950.
2. Nesbit, H. T.: *Texas State J. M.* 38:551, 1943.
3. Dodd, K., and Rapoport, S.: *Am. J. Dis. Children* 78:537, 1949.
4. Recommended Daily Dietary Allowances, Revised 1948, Food and Nutrition Board, National Research Council.

ible, palatable, easy to prepare **Bremil**® *powdered infant food*

Prescription Products Division

The **Borden** Company, *350 Madison Avenue, New York 17*

REPORT ADVANTAGES OF ROOMING-IN PLAN FOR INFANTS

Rooming-in, the practice of keeping the newborn baby in his mother's room instead of in the hospital nursery, is advantageous to infants, parents and grandparents as well as to pediatricians and hospital administrators, writes Dr. Angus McBryde of Durham, N. C., in a recent issue of the *Journal of the American Medical Association.*

Dr. McBryde, pediatrician at Duke Hospital and Duke University School of Medicine, reports on the success of the rooming-in plan at the hospital since it was initiated three years ago. During that time, 2,067 infants have been born at the hospital with 1,862 of them being successfully kept in their mothers' rooms. The 205 babies, only 10 per cent, who were not kept in their mothers' rooms suffered from abnormalities or the condition of the mother was considered unfavorable to such an arrangement.

Giving a brief history of the development of hospital nurseries, Dr. McBryde brought out the fact that before 1890, babies were always kept in their mothers' rooms. However, the high incidence of infection in mothers made it necessary to remove the baby from close contact with the mother and nurseries were created. Today, as a result of modern obstetric methods, infection in new mothers is rare and the advantages of keeping an infant close to his mother suggests a return to the practice of rooming-in.

The infant, Dr. McBryde said, benefits from the close physical contact with his mother by helping him adjust to his new world.

"Only by having him constantly near the mother, where she can hear and satisfy his demands, can he be without discomfort or distress," he added. "We encourage the mother to feel that crying represents the infant's need for her, in terms of either warmth or food, and so the infant may be taken into her bed at any time."

"The early closeness of the parent-child relationship, as it is initiated in rooming-in," he went on to say, "may be the first step in forming the proper close family relationship." He believes that strict adherence to rigid forms of child training and lack of affectionate treatment are often factors resulting in aggressive, maladjusted children.

The advantages of rooming-in for the mother begin, according to the article, "with the satisfaction and delight in meeting and handling her baby early."

Formerly, the article continued, mothers, as well as fathers, after returning home were afraid to handle their baby and were bewildered and anxious about his perfectly normal reactions, such as sneezing and crying, when he wanted anything from attention and food to a dry diaper.

In contrast, the procedure at Duke Hospital is to bring the child directly from the delivery room into the mother's room where he is kept in a bassinet at her side during her entire stay at the hospital.

(Continued on Page 108)

SAYS HOME REMEDY ADVERTISING RECALLS PATENT MEDICINE ERA

Advertising copy of many homes remedies today is suggestive of the so-called patent medicine era in its heyday. So said the *Journal of the American Medical Association* editorially in a recent issue.

"Undoubtedly the untruths are not as blatant as a few decades ago, but clever writing and careful display more than compensate for the limitations on deliberate fabrication," said the *Journal.*

It cited examples of some of the current advertising copy. Pointing to the large-sized type which is being used with startling statements to attract readers and with small print to provide more revealing information, the publication added:

"The advertising copywriters probably are well aware that comparatively few people read fine print when large boldface words are nearby to distract their attention."

It continued: "Superlatives appear to be the order of the day. Simple adjectives apparently lack sufficient color and are relegated in today's copy to minor use or even to the wastebasket. By clever wording, promises are suggested which leave the reader believing that his health and other problems can now be solved without risk of failure. Perhaps testimonials are as simple, safe and effective as any promotional puffery for some types of products that lend themselves to such an approach."

It cited as examples where improvement is needed the advertising of such home remedies as Hadacol, "BC," Pfunder's Tablets, Lavoptik, Breath-o-lator, Indrin, Mountain Valley Water, Rybutol and others.

The *Journal* suggested that "it is time to clean up advertising." It added that if the manufacturers or advertisers do not wish to assume their proper responsibility then those who control the media through which the products are advertised must be strict guardians over advertising claims.

If liquor companies, the editorial said, can use dignified captions, "purveyors of items so closely related to health as drugs should exercise the same restraint or expect eventually to answer to the public or even the courts for their puffery."

The *Journal* further added: "Perhaps some who are not familiar with the laws of the country believe that the mere marketing of a product means the claims comply with all laws. If there are any who sincerely believe this, they should ask representatives of the Food and Drug Administration and the Federal Trade Commission about the limitations of the statutes under which these agencies act, the limitation of personnel that each agency suffers and the slowness with which court actions sometimes occur.

"Responsibility for clean advertising copy rests with the manufacturer or distributor and his advertising representative, sometimes with his sales outlet and always with those who control the medium through which the advertising appeal is made. No one who engages in any part of the transaction can turn away with the thought that the promotion is not his problem. If he has any sense of moral obligation to those who turn to him in trust, he will not disclaim responsibility but instead will be eager to assume it. In the long run, it will be to his advantage even from a business viewpoint."

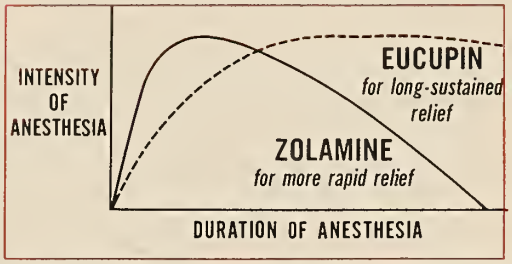
Now...more rapid, more sustained relief of earache

New combination of complementary local analgesics, *quick-acting* zolamine and *long-acting* Eucupin, gives more rapid and more sustained relief of otalgia.

As compared to benzocaine and chemically related compounds, zolamine and Eucupin are more potent and therefore produce a clinically more desirable local analgesic effect.

Otodyne is slightly viscous, thus adherence of the active ingredients to the epidermal surface is promoted. Hygroscopic action effects mild decongestion.

NEW—two analgesics combined for complemental effect



Formula:

Zolamine (N, N-dimethyl-N'2-thiazolyl-N'-p-methoxybenzyl-ethylenediamine)..... 1%
Eucupin® dihydrochloride*..... 0.1%
Polyethylene glycol..... q. s.
Dropper bottles of ½ fluid ounce (15 cc.)

White's OTODYNE® NEW ANALGESIC EAR DROP

WHITE LABORATORIES, INC.
Pharmaceutical Manufacturers, Newark 7, N. J.

*"Eucupin"—Brand of isoamylhydrocupreine is a registered trademark of White Laboratories, Inc.

CLASSIFIED ADVERTISING

(Continued from Page 106)

PRACTICES FOR SALE (Continued)

GENERAL PRACTICE, Northern California, town of 10,000 with nearly new 65-bed, open staff, general hospital. Business grossed $30,000, 1950. Equipment includes autoclave, X-ray, etc.—all purchased since 1946—$5,000. Box 40,055, California Medicine.

FOR RENT: Very fine location for physician. Good spot for specialist. Downtown, good parking, in Alhambra. Apply to G. Hantover, 229 South Pine, San Gabriel.

PAPER SPECIALTIES

TIDI PRODUCTS: Highest quality paper specialties for the professional office. TIDI Creped Roll, a very strong white creped sheet in rolls to fit all fixtures. An ideal sheet with stretch for examination and treatment tables. Very strong even when wet. TIDI Smooth Paper Rolls, all sizes. TIDI Professional Towels. Distributed by leading Physicians' Supply Houses throughout the west. Manufactured in California. Ask your dealer for TIDI PRODUCTS, 996 East Price Street, Pomona, California.

REPORT ADVANTAGES OF ROOMING-IN PLAN FOR INFANTS

(Continued from Page 102)

During the first 24 hours, staff members watch the infant closely as the mother has often received sedatives or is exhausted. At the end of 24 hours, however, the mother is usually ambulatory and may aid in the care of the child if she wishes.

Dr. McBryde reports almost "universal approval" of the rooming-in plan by mothers in both the wards and private rooms. Very few mothers, he said, fail to take advantage of the opportunity to help care for the baby.

Caring for the infant is made convenient for the mother. All equipment for the baby is kept on an enamel tray on a table near her bed. The plan has been found to be satisfactory and approximates the usual home arrangement, Dr. McBryde said.

The fact that mothers now have more confidence in their ability to care for their children as a result of the rooming-in arrangement is shown by the 90 per cent decrease in telephone calls from new mothers during their first week at home, he pointed out.

Visitors are limited to the father and grandparents, who are allowed to visit whenever they wish and may aid in the care of the infant so long as they wash their hands and are free from infection.

A marked change in the attitude of many fathers toward their babies has been noted by Dr. McBryde. "They begin to share the responsibility at once and therefore do not feel that care of their infant is completely in the mothers' province during the early months."

He concluded:

"Now that such a large percentage of infants are born in hospitals, it behooves all of us to make that process as safe and sane as possible. It is hoped that hospitals in the future will be built without nurseries for normal newborn infants who are born of healthy mothers."

PROVIDING ADEQUATE MEDICAL SUPPLIES IS DIFFICULT PROBLEM OF CIVIL DEFENSE

Furnishing adequate medical supplies and equipment in case of a major atomic attack is one of the most difficult problems of civil defense. This is the opinion of Dr. Perrin H. Long of Johns Hopkins University School of Medicine in Baltimore, Md. Formerly he was medical advisor to the Office of Civil Defense Planning.

The development of guided missiles, long-range bombers and the atomic bomb makes our civil defense plans of World War II outdated, said Dr. Long in a recent issue of the *Journal of the American Medical Association*. Instead of thinking about and planning for attacks involving hundreds of casualties, we now must be prepared to take care of thousands or even hundreds of thousands of casualties.

"The problems as to what should be done to provide adequate medical supplies for one, two or three major incidents is not an easy one and has not yet been answered," he said.

Dr. Long estimated that an atomic bomb bursting in the air over a populous area could cause at least 120,000 casualties. Forty thousand, he said, would die immediately or the first day. Another 20,000 would die within six weeks. The remaining number, about 80,000, would need medical and surgical care. Fifty of the eighty thousand would require hospitalization and definite treatment.

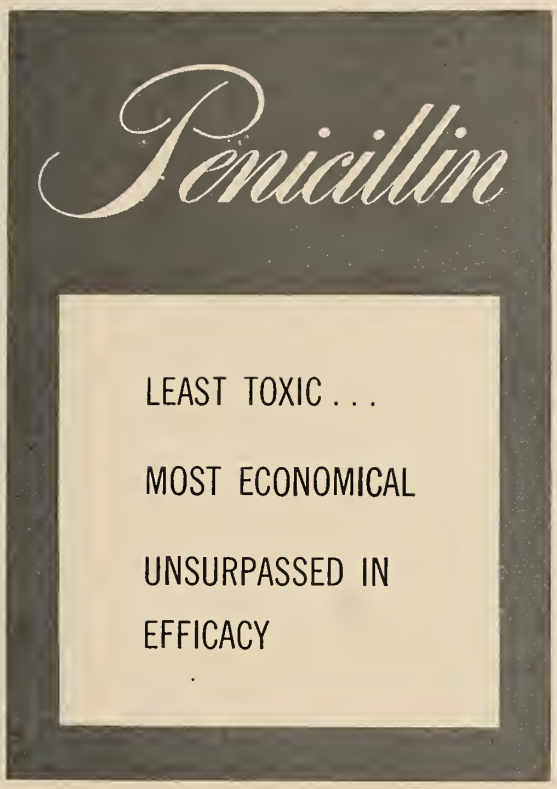
These figures are based on the estimated number of casualties atomic bomb explosions—similar to those at Hiroshima, Nagasaki, Bikini, and New Mexico—could cause. Dr. Long warns, however, that more powerful atomic missiles now have been developed and civil defense planners must keep this in mind.

The tremendous scope of the planning needed to provide adequate medical care for possibly 80,000 persons—all injured in a split second—was brought out by Dr. Long with this comparison. During 20 months of combat in Italy, the Fifth Army, he said, had to provide medical supplies for only about 75,000.

The cost alone and the losses from deterioration would be enormous if each community or state attempted to stock all of its own needed supplies, he said. A solution to the problem has not yet been reached.

One possible solution, in Dr. Long's opinion, would be to have communities and states provide the nondeteriorating items needed for first aid purposes. The federal government could provide the standard medical supplies and equipment that would be needed for definite treatment of casualties. Enough of the needed supplies could be stored in Army medical depots to take care of one, two or three such attacks. Items subject to deterioration could be constantly turned over under such a system. In case of an attack the needed medical supplies could be flown or transported by truck to any part of the country within a few hours.

THE ANTIBIOTIC OF CHOICE *In Gram-Positive and Gonococcic Infections:*



CRYSTALLINE PROCAINE PENICILLIN G MERCK FOR AQUEOUS INJECTION

For Prolonged Therapeutic Blood Levels of Penicillin.

PENICILLIN PRODURAL®

Crystalline Procaine Penicillin G and Buffered Crystalline Penicillin G Potassium for Aqueous Injection.

For Immediate High and Prolonged Blood Levels of Penicillin.

CRYSTALLINE PROCAINE PENICILLIN G MERCK IN OIL

Containing 2% (W/V) Aluminum Monostearate

For Maximum Prolongation of Therapeutic Blood Levels of Penicillin.

CRYSTALLINE PENICILLIN G SODIUM U.S.P. MERCK

For Highest Peak Levels of Penicillin—Short Duration.

MERCK PENICILLIN PRODUCTS

MERCK & CO., INC.
Manufacturing Chemists
RAHWAY, NEW JERSEY

MECHANICAL CARRIER HELPS HANDICAPPED CHILDREN LEARN TO WALK

Cerebral palsy patients at the Edith Hartwell Clinic in LeRoy, New York, are learning how to walk with the aid of a simple mechanical device called a carrier.

Cerebral palsy is a disorder of the central nervous system caused by damage to or absence of brain structure. Children afflicted with the disease do not develop as normal children do. They often are emotionally and neuromuscularly retarded. They have extreme difficulty in moving about and expressing themselves.

One of the most important jobs in the treatment and care of such children is to teach them to move about and do things for themselves.

The Hartwell system—a new technique in the management of cerebral palsy—is described in a recent issue of the *Journal of the American Medical Association* by Drs. R. Plato Schwartz, Frederick N. Zuck, Thomas Lacey II, and Moulton K. Johnson; Frances H. Parson, Ph.D., and Nurse Kathleen Wingate, all of Rochester, New York.

Formerly, teaching a child to walk was a laborious procedure, the doctors said. Most often rigid braces had to be worn for support. Frequently the child fell despite the constant watchfulness of the attendant. Discouraged by these falls, he often did not want to learn how to walk.

The Hartwell approach, on the other hand, using the carrier, enables the child to learn the pattern of crawling and walking more quickly. The carrier, a harness-like affair suspended from ceiling mechanism, supports or carries the child in his efforts to move about. He does not experience failure or frustration by falling.

The doctors believe that the desire to imitate others and the feeling of his feet in contact with the floor during the forward movement make him voluntarily try to crawl or walk—depending on the position in which he has been placed. He is not fixed to one place or speed on the carrier. By increasing his own efforts he can move forward to the next patient. If he does nothing to help himself, the carrier gently propels him in the forward direction. He has graduated from the device when he can support himself by holding on to the carrier with one or both hands. The next step is learning to walk with the aid of one or two canes.

Simplification and motivation are two key words in the Hartwell approach to training cerebral palsied children. Success—important to development in the normal child—is just as important to the handicapped child, it was pointed out. Because of his disabilities, he fails more often than the normal child. As a result he is unwilling to try to do things for himself.

The use of the Hartwell carrier and rewards for efforts seem to encourage and stimulate cerebral palsied children to attempt voluntarily various activities, the doctors said. If the activities are suitably simplified, they continued, the child's efforts will be successful. Successes will encourage the child to attempt increasingly complex activities.

At the Hartwell Clinic, the child is given only those tasks which are within his capabilities. A variety of instruments has been designed so that the patient can advance gradually to more complex functions.

The Hartwell method in action was illustrated in their description of how a five-year-old boy with spastic paralysis of the lower part of his body learned to walk.

The child, when he entered the clinic, could crawl easily but was unable to move his legs when he stood up. Attempts over a period of five months to teach him to ride a tricycle and to walk with braces failed. He did not want to learn how to walk with a crutch.

Attendants at the clinic then tried a stationary tricycle. His favorite toy, a mechanical car, was tied to the end of a string on a reel. This in turn was attached to the right pedal. In 10 days he learned to ride by repeatedly getting the toy by winding the string on the reel. He then was able to ride a movable tricycle. Soon he showed a voluntary desire to walk. About four months after learning to ride the tricycle, he began walking a few steps with the aid of crutches. The progress was gradual. Eleven months from the time he started to learn how to ride a tricycle he walked the distance of 40 feet in half a minute.

A Request for Change of Address

Must reach us at least three weeks before the date of issue with which it is to take effect. Duplicate copies cannot be sent to replace those undelivered through failure to send such advance notice. With your new address be sure to send us the old one, enclosing, if possible, your address label from a recent copy.

California Medicine

450 Sutter Street Room 2009

SAN FRANCISCO 8, CALIFORNIA

No belladonna backfire...

when you relieve nervous indigestion with .....

BENTYL

SAFE, DOUBLE-SPASMOLYSIS

Clinical [1,2,3] and pharmacological results show that the dual action of BENTYL (musculotropic, neurotropic) provides complete and more comfortable relief than that of all other antispasmodics tested.

DOSAGE: Two capsules three times daily, before or after meals. If necessary, repeat dose at bedtime.

BENTYL .....10 mg.
for comfortable relief of nervous indigestion

BENTYL .....10 mg.
with **PHENOBARBITAL**.....15 mg.
when synergistic sedation is desired

1. Hock, C.W.: J. Med. Assn. Ga. 40: Jan., 1951
2. Hufford, A.R.: J. Mich. St. Med. Soc. 49:1308, 1950
3. Chamberlin, D.T.: Gastroenterology 17: Feb., 1951

Trade-mark "Bentylol" Hydrochloride

Merrell 1828

New York — CINCINNATI — Toronto

Relationship of Stress to Autonomic Lability

Studies in psychosomatics have shown that functional disorders often are a result of the patient's inability to adjust to emotionally stressful situations (stressor factors).

Nervous tension and chronic anxiety, discharged through a labile Autonomic Nervous System, can cause somatic disturbance. [1,2] Such states may involve any one of the organ systems or several at one time. [1,3] The outline below relates gastrointestinal and cardiovascular symptomatology to the exaggerated response of the autonomic nervous system.

	Physiologic Effects of Autonomic Discharge	
	Sympathetic	Parasympathetic
Gastro-intestinal	Hypomotility Intestinal Atony Hyposecretion Reduced salivation	Hypermotility Gastrointestinal spasm Hypersecretion
Cardio-vascular	Rapid heart rate Peripheral vaso-constriction	Slow heart rate Vasodilatation
Functional Manifestations	Palpitation Tachycardia Elevated B. P. Dry mouth—throat	Heartburn Nausea-vomiting Low B. P. Colonic spasm

Data here tabulated is from references 3,4,5,6,7, given below.

Diagnosis of functional disorder is supported by the following indications of autonomic lability:

Variable Blood Pressure
Body Temperature Variations
Changing pulse rate
Deviations in B. M. R.
Exaggerated Cold Pressure Reflex
Glucose Tolerance Alterations

Therapy in these cases is directed toward: 1) relief of symptoms by drug therapy (so making the patient more amenable to psychotherapy); 2) psychotherapeutic guidance in making adjustment to stressful situations and correction of unhealthy attitudes.

Clinicians who have studied these disorders, including those of the menopause, report that good therapeutic results are produced by combined adrenergic (ergotamine) and cholinergic blockade (Bellafoline) with central sedation (phenobarbital) [8,9,10]. A convenient preparation of this nature is available in the form of Bellergal Tablets. Functional disorders are long-term therapeutic problems; therefore, drug treatment by the following method is recommended: 5 or 6 tabs. per day for the 1st week; then gradually reduce to the smallest dose effective in maintaining the patient symptom free (average: 3 tabs. daily). Interrupt for 1 week out of every month to assess results.

1. Ebaugh, F.: Postgrad. Med. *4:* 208, 1948. 2. Wilbur, D.: J.A.M.A. *141:* 1199, 1949. 3. Williams, E. and Carmichael, C.: J. Nat'l. Med. Assoc. *42:* 32, 1950. 4. Goodman, L. and Gilman, A.: The Pharmacological Basis of Therapeutics, The Macmillan Co., 1941. 5. Katz, L. et al: Ann. Int. Med. *27:* 261, 1947. 6. Weiss, E. et al: Am. J. Psychiat. *107:* 264, 1950. 7. Alvarez, W.: Chicago Med. Soc. Bulletin, 581 1950. 8. Rakoff, A.: A Course in Practical Therapeutics, Williams and Wilkins, 1948. 9. Karnosh, L. and Zucker, E.: A Handbook of Psychiatry, C. V. Mosby Co., 1945. 10. Harris, L.: Canad. M.A.J. *58:* 251, 1948.

Sandoz Pharmaceuticals

DIVISION OF SANDOZ CHEMICAL WORKS, INC.
68 CHARLTON STREET, NEW YORK 14, N. Y.

NEED MORE PHYSICIAN EXAMINATIONS OF VIOLENT AND SUDDEN DEATHS

Only 13 per cent of the people in the United States are protected by adequate investigation of violent or sudden deaths, according to Dr. Richard Ford of Boston.

In most states, Dr. Ford points out in a recent issue of the *Journal of the American Medical Association*, the coroner is not required by law to be a physician nor are there adequate facilities for thorough investigation of such deaths. Dr. Ford estimates that 300,000 (20 per cent) of all deaths annually are from violent or obscure causes.

If medical examination is not a definite part of the investigation in these cases, he said, the true cause and manner of death in many instances may never be established.

How does such medical investigation serve society?

Its most important function is to exonerate the innocent, Dr. Ford believes. But disclosing murders, providing evidence for civil and criminal courts, recognizing fatal contagious diseases, exposing industrial health and safety hazards are also important.

Too often, he continued, the driver of a vehicle involved in an accident is given full blame for killing or injuring a pedestrian whereas the victim—because of drunkenness, disease, or medication—is often equally at fault.

He also pointed out that there are sound medical reasons for many accidents. He described the case of a driver who was seen to "struggle" with the wheel of his car while driving through a downtown section. The car went out of control, turned over and killed the driver. An expense notation for a drug which was found on the body and a subsequent medical investigation established the man as an epileptic, a seizure having occurred while he was driving the car.

Nonrecognition of murder is common, Dr. Ford said. In New York City alone the medical examiner service discloses approximately 50 deaths annually which are due to violence not noticeable externally.

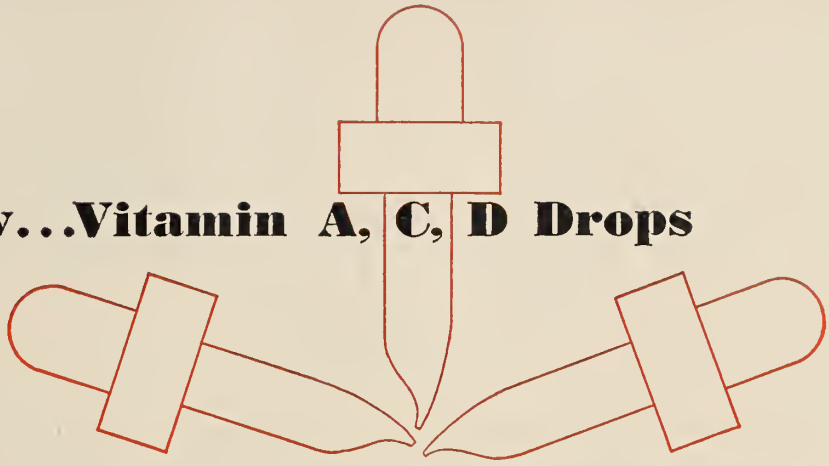
To demonstrate the role of medical examiners in establishing the innocence of a person, he cited the case of a small girl who died suddenly in a drugstore. The druggist was immediately suspected of leaving poisonous drugs within reach. A medical examination disclosed, however, that a red rubber toy balloon was lodged in the child's windpipe. She probably had been chewing on the balloon, it was explained, and, through forced inspiration in sneezing or coughing, the balloon was drawn into the windpipe and prevented her from breathing.

If this death had not been investigated by thorough autopsy, to this day the druggist would lie under the shadow of suspicion, even though tests showed that the child had not been poisoned, Dr. Ford explained.

Massachusetts, Maryland and Virginia were the only three states named by Dr. Ford as being served

(Continued on Page 14)

Now...Vitamin A, C, D Drops



in aqueous solution for ***better absorption***

Aquasperse

Vitamin ACD Drops

Advantages:

Aqueous Solution—means faster and more efficient absorption of the fat-soluble vitamins A and D.

In conditions in which fat absorption is impaired, such as diarrheas, celiac disease, hepatic and biliary disturbances, the value of an aqueous solution is obvious.

Hypoallergenic—all the component vitamins of Aquasperse are synthetic. Consequently it may be used where patients cannot tolerate natural source vitamins.

Pleasant flavor . . . no objectionable odor—Aquasperse has an appealing, slightly citrus flavor and practically no odor.

EACH 0.6 CC. CONTAINS:

vitamin A	5000 U.S.P. Units
vitamin D_3	1000 U.S.P. Units
ascorbic acid	50 mg.

Note: The vitamin D_3 in Aquasperse is chemically identical and biologically equivalent to the vitamin D of cod liver oil.

Available—In bottles of 15 cc. and 50 cc. (with calibrated dropper)

WHITE LABORATORIES, INC., Pharmaceutical Manufacturers, Newark 7, N. J.

NEED MORE PHYSICIAN EXAMINATIONS OF VIOLENT AND SUDDEN DEATHS

(Continued from Page 10)

by centralized laboratories for medicolegal investigation of deaths. These together with Maine, New Hampshire, Connecticut, Rhode Island and several cities and counties of other states comprise a total of 20,000,000 citizens served by systems in which the investigator is at least a physician, he said.

Commenting on this problem in the same issue of the *Journal*, Dr. Louis J. Regan of Los Angeles said:

"When death takes place at work or in a traffic crash, it is readily assumed that it is an instance of accidental death, while a medicolegal investigation may reveal a natural cause and thereby place the seemingly violent death in its true causal relation. . . .

"Since, in many localities, the investigation of violent or obscure deaths is insufficient, the number of murders that actually take place or the number of deaths due to accident, suicide or natural causes that are erroneously attributed to murder cannot be estimated."

Buy U.S. Savings Bonds

THE CALIFORNIA SANATORIUM

Fully equipped for the diagnosis and modern treatment of diseases of the chest, including tuberculosis and other respiratory diseases

BELMONT, CALIFORNIA

Telephone: LYtell 3-2171

San Francisco Office:
536 Mason Street
Phone DOuglas 2-5793

THOMAS B. WIPER, M.D.
Director and Consultant in Thoracic Surgery

ALLEN A. LILIENTHAL
W. N. TORRE, M.D.
Resident Clinicians

From the NATURAL SOURCE

Little Redfish Lake — Saw Tooth Range, Idaho

Special Morning Milk is an evaporated milk especially developed for infant feeding. It is fortified (from the natural source) with 400 U.S.P. units vitamin D and 2000 U.S.P. units vitamin A per reconstituted quart.

Special MORNING MILK

World-wide **USE**

World-wide **ACCLAIM**

Chloromycetin®

CHLOROMYCETIN's world-wide reputation stems from its ability to produce rapid, clinical response in a wide variety of infectious diseases — bacterial, viral and rickettsial. Numerous reports and the experience of daily practice confirm its

clinical efficacy • high tolerance
wide spectrum • high blood levels

CHLOROMYCETIN, a pure crystalline compound of definite molecular structure, is the only antibiotic produced on a practical scale by chemical synthesis. This unique feature means unvarying composition for dependable therapeutic results, freedom from extraneous material, and infrequent side effects.

CHLOROMYCETIN (Chloramphenicol, Parke-Davis) is supplied in a number of forms, including Kapseals® of 250 mg., and capsules of 50 mg.

& COMPANY DETROIT 32, MICHIGAN

MEDICAMENTA VERA P & CO.

A. M. A. SECRETARY'S LETTER

The U. S. Supreme Court is going to decide whether doctors can continue their own prepaid, non-profit hospital and health insurance programs.

The court last week agreed to hear arguments in the case of the Oregon medical plan, called Oregon's Physicians Service, which the government claims violates anti-trust laws. The plan was upheld by Federal District Judge Claude McColloch in Portland.

Judge McColloch's opinion was appealed to the Supreme Court by the U. S. Department of Justice which has been investigating similar plans in more than a dozen states.

Boondoggling in Medical Science. The Kirksville, Mo., *Daily Express* reported in a lengthy story recently that the U. S. Office of Naval Research had awarded a contract of $4,000 to the Kirksville College of Osteopathy and Surgery to assist in a research program on "chronic segmental facilitation and the exchange between the somatic and autonomic nervous systems." Upon completion of this opus, no doubt our sailors will be cared for better.

Raps High Doctor Fees. A recent news letter of the Arkansas Academy of General Practice said that "the doctor who charges exorbitant fees is the worst enemy within our ranks," adding: "We cannot expect all of the people to stop asking for government medicine if we are not giving good medical service to all of them at a price they can afford to pay."

Metropolitan Life Has New Movie on Overweight. I have just seen the Metropolitan Life Insurance Company's new movie entitled "Cheers for Chubby," and it is exceptionally well done. It will be presented in commercial theaters throughout the country.

The movie is based on information obtained in interviews with the A.M.A., the Public Health Service, and the Milbank Memorial Fund, as well as various nutrition agencies, hospitals, clinics, medical schools and health departments.

This 8-minute theatrical animated short in color was made because of the growing feeling that overweight is a major health problem and that control of it, particularly after middle age, should result in a substantial increase in health and longevity.

Dr. D. B. Armstrong, a Metropolitan vice-president, said the film would be made available within a short time to state and county medical societies for showing in their areas.

Henderson Returns from Far East. A.M.A. President Elmer L. Henderson and five other physicians returned to the States recently after serving on a mission in the Far East for Maj. Gen. Harry G. Armstrong, Surgeon General of the U. S. Air Force. Besides Dr. Henderson, the five civilian consultants who made the trip were:

Cortez F. Enloe, Manhasset, L. I., New York; William P. Holbrook, Tucson, Ariz.; Russel V. Lee, Palo Alto, Calif.; John M. Murray, Boston, and Herbert B. Wright, Cleveland.

The mission inspected Air Force hospitals and dispensaries in Hawaii, the Philippines, Okinawa, Japan, Korea and Alaska.

Dr. Henderson will relate interesting details of the trip in his "President's Page" message in the A.M.A. *Journal* of April 28. He was aboard an evacuation ship loaded with wounded and the sick, on its trip from Korea to Tokyo. After his arrival in Tokyo, he received a personal invitation to visit General MacArthur. He said he and the General talked about many things for more than an hour.

Dr. Henderson will leave the country again on April 27 to attend, together with Dr. Louis H. Bauer and Dr. R. I. Sensenich, the Council of the World Medical Association meeting in Geneva, April 29 to May 6. After the meeting, Dr. Henderson and Dr. Sensenich will visit U. S. Air Force hospitals and dispensaries in France and Germany.

Dr. Bauer has been working on program details for the council meeting in Geneva. He said one of the chief features of the meeting would be a joint session of the World Medical Association and the World Health Organization to plan ways and means of working together so as not to duplicate their efforts.

The editor of the *World Medical Association Bulletin* said that the indexing and abstracting of world medical literature also would be discussed at the council meeting, as well as a proposal for the holding of a world conference on medical education.

Emergency Medical Service Has New Secretary. Attorney C. Joseph Stetler recently was appointed Secretary of the A.M.A. Council on National Emergency Medical Service, succeeding Dr. Robert M. Hall, who returned to active duty with the Army. For the last 16 years Mr. Stetler has served with various government agencies. His most recent assignment was that of director of the legislation and opinions service of the War Claims Commission in Washington.

Plan to Study Number of Chronically Ill in U. S. Plans are progressing nicely to determine how many people in the United States are chronically ill and what facilities and services they need.

Dr. Morton Levin says that the proposed study will be based on plans developed by the Commission on Chronic Illness with field work being carried out in consultation with the commission's staff. The A.M.A. is one of the sponsoring agencies making up the commission.

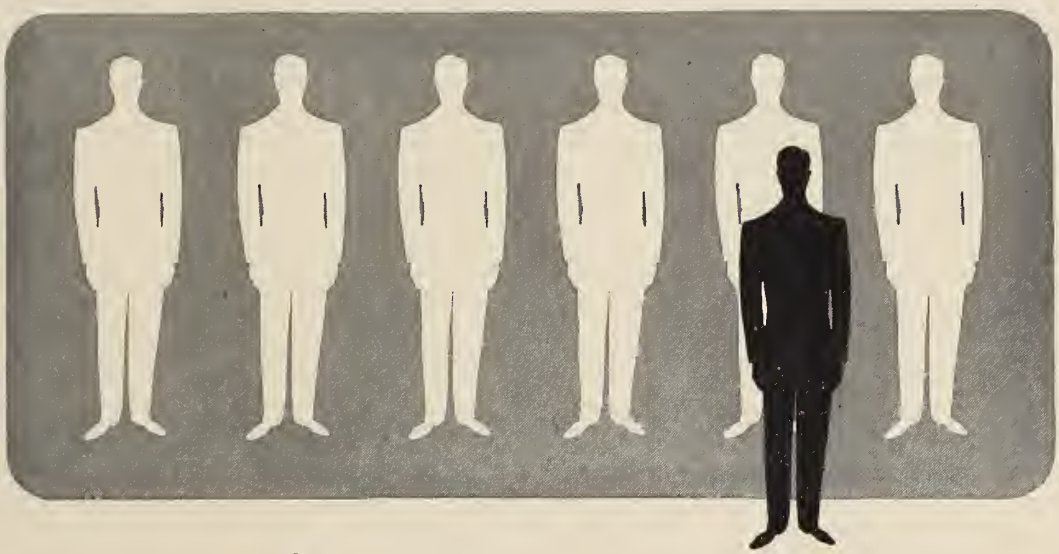
A grant of $60,000 has been made by the Commonwealth Fund to the Hunterdon County Medical Center (New Jersey) for a study of incidence of chronic illness in the rural population. The U. S. Public Health Service has made a preliminary grant of $10,000 to assist the commission in planning a similar survey in an urban population.

Prevalence of illness by disease will be measured, and the study will seek information on different types of care needed: hospital, home care, rehabilitation, and other community services.

"Every community," Dr. Levin said, "recognizes the need for more facilities for care of the growing numbers of chronically ill people. No one knows

(Continued on Page 30)

In one out of six patients



no symptoms

but *all* 34 patients in this study carried Endamoeba histolytica[1] in their stools! Five were classified as asymptomatic and 18 were "persons with such poorly defined symptoms that they would not normally seek medical assistance...," but a stool examination proved that all had amebic dysentery.

In these instances, a course of treatment with Milibis-Aralen was completely successful. Milibis — bismuth glycolylarsanilate — a new intestinal amebacide, is one of the most powerful of the drugs commonly used against Endamoeba histolytica.[2] Yet its toxicity is so low that side effects are virtually unobserved.

Aralen (chloroquine) diphosphate has been shown to exert a specific action on extra-intestinal amebiasis. The combination of Aralen with a superior intestinal antiamebic drug such as Milibis furnishes adequate treatment of any amebic infection.

HOW SUPPLIED:

Milibis, tablets of 0.5 Gm., bottles of 25;
Aralen, tablets of 0.25 Gm., bottles of 100.

MILIBIS® *amebacide... high in potency... low in side effects*

ARALEN® *diphosphate... for extra-intestinal amebiasis*

Winthrop-Stearns INC. 1450 BROADWAY, NEW YORK 18, N. Y.

1. Towse, R. C., Berberian, D. A., and Dennis, E. W.: *New York State Jour. Med.*, 50:2035, Sept., 1950.
2. Berberian, D. A., Dennis, E. W., and Pipkin, C. A.: *Am. Jour. Trop. Med.*, 30:613, Sept., 1950.

588M

℞ "Recta-Caps"

PARALOIDS

(PARALDEHYDE U.S.P.)

Paraldehyde, given rectally, results in complete analgesia and amnesia in 85 to 95% of cases. One of the least toxic of drugs, paraldehyde is generally used in conjunction with morphine or the barbiturates. Because of the large margin of safety between the therapeutic and the toxic dose, paraldehyde is the safest of the analgesic drugs.

"RECTA-CAPS," containing PARALDEHYDE U.S.P. for rectal use only, introduced under the name of PARALOIDS, is an original product of INGRAM LABORATORIES.

SUPPLIED:

Each "Recta-Cap" contains 5 cc. Paraldehyde, U. S. P. in special base for local absorption. Packaged in 12's and 24's (Institutional Pack 100's and 1,000's).

For further information and samples, write to

PROFESSIONAL SERVICE DIVISION

INGRAM

INCORPORATED

330 FRONT STREET, SAN FRANCISCO 11

FROZEN, CONCENTRATED ORANGE JUICE AS NUTRITIOUS AS FRESH FRUIT

Approximately 98 per cent of the vitamin C in fresh oranges can be retained in the frozen, concentrated juice if proper methods are used, a report to the Council on Foods and Nutrition of the American Medical Association revealed.

The report, published in a recent issue of the *Journal of the American Medical Association*, said "the frozen concentrated product can be as valuable from a nutritive content as is fresh orange juice.

"Studies indicate that the vitamin C content of fresh oranges may show considerable variation. This is due in part to seasonal influences. In general, fruit picked in midseason tends to be higher in vitamin C content than does that picked early or late in the season. Other factors, including variety of fruit, degree of ripeness and condition of the soil, also significantly affect the vitamin C content of the fresh fruit."

"The danger of vitamin C loss," the report continued, "is most likely to occur as a result of improper handling or storage in the home. For example, if after reconstituting the juice is allowed to stand in open containers at room temperature, appreciable losses will occur. However, if the reconstituted juice is placed in the refrigerator at 40 degrees F., vitamin C losses will be negligible. Ideally, the juice should be consumed as soon as possible after reconstituting to obtain maximum vitamin C value."

In the same issue, a *Journal* editorial said in part:

"When frozen foods are selected, prepared and stored [whether at home or commercially] according to the best of currently available scientific knowledge, they can compare favorably in nutrient content and flavor with the fresh product.

"Much of the loss of the water-soluble vitamins and other water-soluble constituents of vegetables preserved by freezing, canning or dehydration occurs as the result of the preliminary blanching or precooking to which they are subjected. . . . Blanching in water frequently reduces the ascorbic acid content of vegetables as much as 16 per cent. Such losses tend to be minimized when the blanching time is shortened by the use of boiling water and the same water is used repeatedly. . . .

"Another important factor in the preservation of vitamins and flavor is the rate of freezing. . . . Observers have found that eight to 12 hours may be used for freezing without significant impairment. This means the products frozen in home freezing cabinets can be as nutritious as those obtained by quick freezing. The freezing time should not be increased beyond 12 hours, however, because of deteriorative changes that may occur if the temperature is not dropped rapidly enough throughout the entire package. . . .

"Storage at 0 degrees F. seems quite satisfactory, at least when the storage period is a year or less. Losses [in nutrient value] become much greater if the temperature is allowed to rise to 10 F. or is allowed to fluctuate between 0 and 20 F. At these temperatures peas lose 50 per cent of their original ascorbic acid in one year and show color deterioration."

NOW

	MAINTENANCE DOSAGE (1 tablet) CONTAINS:	THERAPEUTIC DOSAGE (3 tablets) CONTAINS:
VITAMIN A	8,334 USP units	25,000 USP units
VITAMIN D	400 USP units	1,200 USP units
THIAMINE	3.3 mg.	10 mg.
RIBOFLAVIN	2.0 mg.	6 mg.
NIACIN AMIDE	50.0 mg.	150 mg.
VITAMIN B_{12}	1.67 mcg.	5 mcg.
FOLIC ACID	0.17 mg.	0.5 mg.
VITAMIN B_6	0.2 mg.	0.6 mg.
VITAMIN E	1.0 mg.	3.0 mg.
VITAMIN C	50 mg.	150 mg.
CALCIUM	183.0 mg.	550 mg.
PHOSPHORUS	130.0 mg.	390 mg.
IRON (FERROUS GLUCONATE)	15.0 mg.	45 mg.
MANGANESE	3.0 mg.	9.0 mg.
BORON	0.1 mg.	0.3 mg.
IODINE	0.1 mg.	0.3 mg.
ZINC	1.5 mg.	4.5 mg.
COPPER	0.67 mg.	2.0 mg.
COBALT	0.1 mg.	0.3 mg.
MOLYBDENUM	0.1 mg.	0.3 mg.
MAGNESIUM	10.0 mg.	30.0 mg.

10 vitamins

11 minerals

ALL IN

DEIMAL

for patient's
per diem nutrition
at low cost

Available in bottles of 100 capsule-shaped, coated tablets... at all pharmacies

BOYLE & COMPANY

LOS ANGELES 33 CALIFORNIA

MANUFACTURERS AND NATIONAL DISTRIBUTORS OF ETHICAL PHARMACEUTICALS SINCE 1927

CURE HEART CONDITION BY REMOVING MEMBRANE

A serious heart condition, caused by tuberculous inflammation of the mebrane which surrounds the heart, is being cured by two San Francisco doctors through surgical removal of the diseased membrane.

Pericardiectomy—as the removal of this membrane is called—was performed on four patients suffering from tuberculous pericarditis. The doctors report three of the patients are cured and the fourth shows progressive improvement.

A recent issue of the *Journal of the American Medical Association* carries this report by Drs. Emile Holman and Forrest Willett of the Stanford University School of Medicine and the San Francisco Veterans Administration Hospital.

The mortality rate from tuberculous pericarditis has been high, the doctors said. Tuberculosis germs attacking the membrane around the heart cause it to become thickened and inflamed, putting pressure on the heart. Patients become increasingly disabled by cardiac compression. In the past, patients have been treated by prolonged bed rest.

ACTH HELPS SEVERELY BURNED CHILDREN

Further evidence that ACTH is a valuable aid in the treatment of severely burned persons was reported by four Minneapolis doctors in a recent issue of the *Journal of the American Medical Association.*

Drs. Forrest H. Adams, Eldon Berglund, Samuel G. Balkin and Tague Chisholm, who administered the drug to three severely burned children, reported that there was a decrease in the fever, an increase in appetite and an improvement in the emotional status of the children. They received the hormone for five, 30 and 100 days respectively.

The doctors are associated with the University of Minnesota Medical School and the Minnesota General Hospital.

The doctors explained that fever, lack of appetite, irritability and emotional instability, so often present in severely burned persons, pose many problems to the attending physician. For example, loss of appetite—probably related to the fever—and the loss of body fluids and proteins from the burned area might produce a state of malnutrition, making skin graft difficult."

Reminder for arthritis cases!

The SAFE gold preparation AUROL-SULFIDE, 2% parenteral gold sulfide, is now available for physicians in any quantity desired, in 15, 30, and 60 cc. vials. Literature available. Please order direct or through your pharmacist.

6007 N. LINCOLN AVE.
HILLE LABORATORIES, Chicago 45

WHEN YOU THINK "**COLLECTIONS**"
Think—"**THE DOCTORS BUSINESS BUREAU**"

THE OLDEST...THE LARGEST...THE BEST

AND
YOU CANNOT DO BETTER THAN THE BEST

OUR MOTTO:
"Persuasion Prevails Where Force Fails"

THE DOCTORS BUSINESS BUREAU

Call or Write Your Nearest Office:

Spreckels Bldg., Los Angeles 14
TRinity 1252
153 Kearny Street, San Francisco 8
GArfield 1-0460

Latham Square Bldg., Oakland 12
GLencourt 1-8731
Heartwell Bldg., Long Beach
Phone 632-29

Advertisers in your Official Journal *will appreciate requests for literature*

Because Gantrisin* Ophthalmic has a wider antibacterial spectrum, it is highly effective against many microorganisms found in conjunctivitis, blepharitis, dacryocystitis, corneal ulcer, trachoma, superficial punctate keratitis and other eye infections.

Because Gantrisin Ophthalmic is an isotonic, buffered solution, it usually does not irritate or sting the eyes. The fact that it is a single sulfonamide, not a mixture, reduces risk of sensitization.

Gantrisin

Ophthalmic

GANTRISIN DIETHANOLAMINE

'Roche'

A sterile stable solution containing 4% Gantrisin Diethanolamine in 1 oz. vials with dropper, it does not require refrigeration.

---

†Quinn, L. H., and Burnside, P. M.: *Eye, Ear, Nose & Throat Monthly*, 30:81, Feb., 1951.

Hoffmann-La Roche Inc • *Roche Park* • *Nutley 10* • *New Jersey*

*GANTRISIN®—BRAND OF SULFISOXAZOLE (3,4-DIMETHYL-5-SULFANILAMIDO-ISOXAZOLE)

A. M. A. SECRETARY'S LETTER

(Continued from Page 18)

the number of people or the extent of their need for more services. Such information is basic to long-range planning, although it is not always essential for taking action on already recognized local needs."

* * *

Dr. Channing Frothingham and his Committee for the Nation's Health came forth with another statement last week against the A.M.A.

Thirty officials of the committee, according to stories appearing in the press, signed the statement which carried many allegations. It skipped from one to another. The committee denounced A.M.A. President Elmer L. Henderson for using "mere name-calling" instead of "facts and reasoned arguments" in replying to critics of the A.M.A. Then, the committee charged also that the *Journal* "has not followed the American tradition of publishing opposing views. The 100,000 or more physicians who receive your Journal have rarely been given opportunity to read more than one side of the case." It asked the *Journal* to publish the letter and a statement, prepared by them, explaining their side of the question.

Among those who had signed the statement, it was claimed, were: Mrs. Eleanor Roosevelt, Bishop G. Bromley Oxnam, President William Green of the AFL and President Philip Murray of the CIO.

Dr. Henderson was quick to reply to the statement. His reply, which was distributed by press associations, said that the "files of the House un-American Activities Committee are open to public inspection and afford complete and detailed substantiation of the subversive connections and activities of many of the leaders of the so-called Committee for the Nation's Health." He added:

"The House un-American Activities Committee lists four of the most notorious communist fronts with which certain members of the Committee for the Nation's Health have been connected: The Independent Citizens Committee of the Arts, Sciences and Professions; The American League for Peace and Democracy, The Win the Peace Conference, and The National Lawyers Guild. More than half of the charter members of the Committee for the Nation's Health, according to records of the House un-American Activities Committee, had connections with subversive organizations.

"Under the circumstances, my reference to the 'Pinkish Pigmentation' of the Committee for the Nation's Health [*Journal*, Feb. 24, page 567] was an understatement, rather than an exaggeration.

"The House un-American Activities Committee lists specifically many communist front and other left wing groups with which many of the most active members and leaders of the Committee for the Nation's Health have been connected over a long period of years.

"The letter of protest from the Committee for the Nation's Health, which is simply a lobby front for socialized medicine, was not published in the *Journal of the American Medical Association* because it did not merit publication.

"The Committee for the Nation's Health represents a small, highly vocal group which includes only a few physicians in its membership."

Don't Miss de Kruif's Doctor Article. Paul de Kruif has a fine article, entitled "Your Doctor For a Friend," appearing in the May issue of the *Reader's Digest*. The article discusses the doctor-patient relationship, praises the medical profession for taking the initiative in setting up grievance committees and emergency night-call systems, and tells how the patient can help his doctor.

Reprints are being made available by our Department of Public Relations to state medical societies in quantities up to 500 for distribution through county medical societies.

See No Immediate Need for E.M.I.C. Program. The A.M.A. Council on Medical Service has received a number of inquiries relative to possible reenactment of the Emergency Maternity and Infant Care program for dependents of servicemen which was in effect during World War II.

Many of the recent inquiries, no doubt, have sprung from conferences which the Children's Bureau had with hospital administrators, public health officers and other interested groups. The Committee on Maternal and Child Care of the Council on Medical Service participated in some of these meetings, and is now conducting its own inquiry on the operations of the former E.M.I.C. program.

Committee Chairman W. L. Crawford of Rockford, Ill., says he believes the evidence at hand so far indicates that no widespread emergency exists at the present time for setting up a special maternal and infant care program for wives and dependents of servicemen. He adds that as nearly as the committee can determine, there have been only a few requests or "pressures" for a nationwide reenactment of such a program. The few requests that have been received usually can be traced to individual instances arising near military installations where the influx of servicemen and their families has resulted in abnormal conditions. Special consideration and planning, Dr. Crawford believes, will have to be given to these particular areas.

A summary of the committee's findings to date is being mailed to secretaries of all state medical societies.

Companion Article Brings Protest. The May issue of the *Woman's Home Companion* carried another of its controversial articles, the latest entitled "Trouble In Our Hospitals." The magazine promoted the article in full-page advertisements in newspapers throughout the country.

"Organized medicine," the advertisement said, "is waging an undercover campaign to make you pay six or seven bills every time you or one of your family goes to a hospital. The whole Blue Cross insurance plan is threatened." The article was written by Albert Deutsch, one-time columnist for the defunct *PM* newspaper in New York.

The whole article was exaggerated and misrepresented the true facts. The A.M.A. sent telegrams of protest to the editor of the *Companion* and to the

(Continued on Page 46)

with Codeine Phosphate # gr. $\frac{1}{8}$ **1**

with Codeine Phosphate # gr. $\frac{1}{4}$ **2**

'Tabloid'

'EMPIRIN' COMPOUND®

with Codeine Phosphate*

with Codeine Phosphate # gr. $\frac{1}{2}$ **3**

with Codeine Phosphate # gr. 1 **4**

Gradations of Analgesia

a series with a reputation for reliability

*12 times more soluble than sulfate

BURROUGHS WELLCOME & CO. (U.S.A.) INC.
Tuckahoe 7, N. Y.

USE STREPTOMYCIN TO TREAT TUBERCULOSIS IN CHILDREN

Streptomycin has proved valuable in treating tuberculosis in children under 12, according to an article in a recent issue of the *Journal of the American Medical Association.*

Drs. William Berenberg, Charles D. Cook and Claire W. Twinam of Boston, authors of the article, tested the drug on 27 children between the ages of 7 weeks and 17 years.

They reported the following results: The disease was arrested in five, 18 were improved, three were unimproved and one was worse. The patient who became worse was a 7 weeks old infant who developed tuberculous meningitis.

All three of the patients who did not improve were over 12 years of age. Eight patients over 12 received the drug but only two appeared to derive any lasting benefit from it, the doctors said.

They explained that tuberculosis in children under 12 is somewhat different from the type encountered in adults and children over 12. Most children, they continued, between the ages of 3 and 12 do well without specific treatment. The 27 children who received the drug were selected because they failed to improve with the usual treatment. Streptomycin may be expected to "supplement but not replace" the time-tested measures of prevention of reinfection, hygienic regulation, dietary supervision, adequate rest and nursing care in the treatment of tuberculosis in children, they said.

THE NEW YORK POLYCLINIC

MEDICAL SCHOOL AND HOSPITAL

(Organized 1881)

(The Pioneer Post-Graduate Medical Institution in America)

Obstetrics and Gynecology

A full-time course. In Obstetrics: Lectures; prenatal clinics witnessing normal and operative deliveries; operative obstetrics (manikin). In Gynecology: Lectures; touch clinics; witnessing operations; examination of patients preoperatively; follow-up in wards postoperatively. Obstetrical and gynecological pathology. Anesthesia. Attendance at conferences in obstetrics and gynecology. Operative gynecology on the cadaver.

For the General Surgeon

A combined surgical course comprising general surgery, traumatic surgery, abdominal surgery, gastroenterology, proctology, gynecological surgery, urological surgery. Attendance at lectures, witnessing operations, examination of patients preoperatively and postoperatively, and follow-up in the wards postoperatively. Pathology, radiology, physical medicine, anesthesia. Cadaver demonstrations in surgical anatomy, thoracic surgery, proctology, orthopedics. Operative surgery and operative gynecology on the cadaver.

For Information Address: THE DEAN, 345 West 50th Street, New York 19, N. Y.

Rooms again Available especially FRIDAYS • SATURDAYS SUNDAYS

THE BILTMORE HOTEL LOS ANGELES

DINING AND DANCING *in the World Famous* BILTMORE BOWL

Two Floor Shows Nightly 8:45 and 11:45

WRITE • WIRE • TELEPHONE MICHIGAN 1011

French Hospital

Geary Boulevard and Fifth Avenue

SAN FRANCISCO, CALIFORNIA

A general hospitol of 225 beds operating an occredited School of Nursing, admitting oll closses of patients except those suffering from mentol diseoses. Orgonized in 1851 ond operated by the French Mutuol Benevolent Society through a Board of Directors, o chief executive officer ond staff. Accredited for intern troining by the Americon Medical Association and approved by the American College of Surgeons.

Staff

Alfred Raynal ..... *President*

Louis Alaux ..... *Secretary*

E. C. H. Pearson ..... *Superintendent*

William L. Rogers, M.D. ..... *Chief of Staff*

Forrest M. Willett, M.D. ..... *President of Staff*

R. L. Smith, M.D. ..... *Secretary of Staff*

URGE DOCTORS TO AID P.T.A. IN ROUND-UP OF NEW SCHOOL PUPILS

The *Journal of the American Medical Association* called upon doctors to provide the usual cooperation of the medical profession in the Summer Round-Up of Children, sponsored by the National Congress of Parents and Teachers.

In the round-up, physicians will be asked to examine the annual increment of kindergarten and first grade children. The program has had the endorsement of the A.M.A. since its inception in 1925. Present policies and standards have been developed through the assistance of the director of the association's Bureau of Health Education.

"The health appraisal should be something less than a pediatric examination, but something more than a hurried inspection of the tonsils and a pat on the head," said the *Journal*. "It is, first, an educational experience for the child and parent and, second, an evaluation of the child's development and fitness to undergo the intellectual, emotional and social changes incident to starting school."

The editorial stressed that starting to school is a critical time for a child—"his first great venture away from home, a division of allegiance and an exposure to a strange new world." It continued:

"Though the Summer Round-Up program was started by the Congress of Parents and Teachers to detect defects and lead to their correction, modern

(Continued on Page 36)

ALUM ROCK SANATORIUM
SAN JOSE, CALIFORNIA

Telephone Clayburn 8-4921

A Non-Profit Sanatorium for the treatment of tuberculosis and other diseases of the chest.

MEDICAL DIRECTOR
Buford H. Wardrip, M.D.

ASSOC. MEDICAL DIRECTOR
C. Gerald Scarborough, M.D.

VISITING MEDICAL STAFF:
Harold Guyon Trimble, M.D., Oakland
Cabot Brown, M.D., San Francisco
J. Lloyd Eaton, M.D., Oakland
H. Corwin Hinshaw, M.D., San Francisco
Gerald L. Crenshaw, M.D., Oakland
Glenroy N. Pierce, M.D., San Francisco
Ina Gourley, M.D., Oakland
James Robert Wood, M.D., Oakland
W. Dale Peterson, M.D., San Francisco

CONSULTING PATHOLOGIST: E. Gwyn Roberts, M.D., San Francisco

THE
MEDICAL PROTECTIVE
COMPANY
FORT WAYNE, INDIANA

Professional Protection Exclusively since 1899

LOS ANGELES Office:
D. C. Seeman, Representative,
417 First Trust Bldg., Pasadena
Telephone RYan 1-6981
and SYcamore 3-0676

SAN FRANCISCO Office:
Gordon C. Jones, Representative,
1735 Sweetwood Drive
Telephone Plaza 5-4478

RALEIGH HILLS SANITARIUM, Inc.

Recognized by the American Medical Association

Member: American Hospital Association

Exclusively for the treatment of

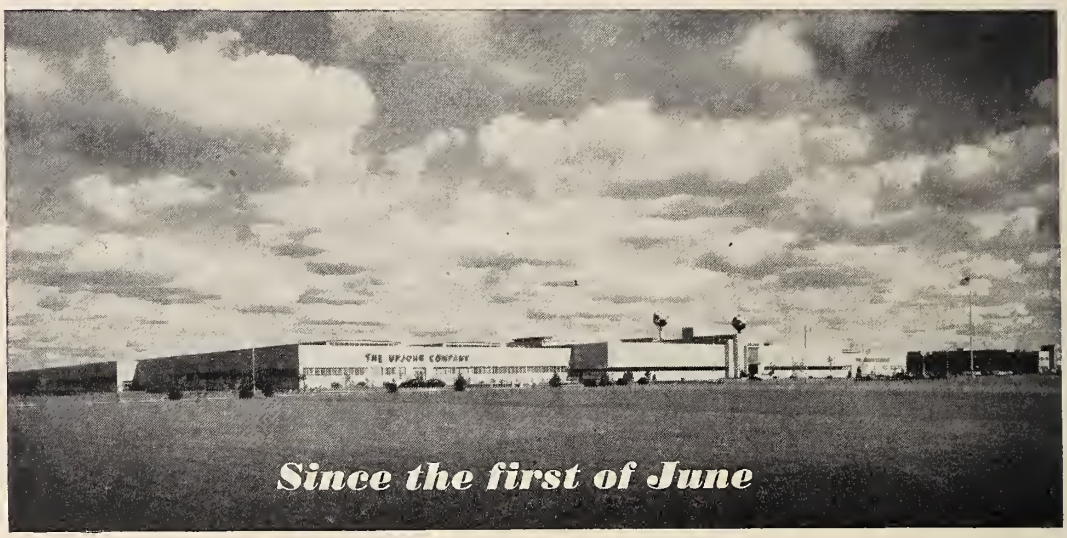
Chronic Alcoholism
by the Conditioned Reflex and Adjuvant Methods

MEDICAL STAFF
Ernest L. Boylen, M.D.
William C. Panton, M.D.
James G. Perkins, M.D.
John R. Montague, M.D.
John W. Evans, M.D.
Psychiatrist

B. S. P. MILES, Administrator

S. W. Scholls Ferry Road
P. O. Box 366 Portland 7, Oregon
Telephone CHerry 1144

Advertisers in your OFFICIAL JOURNAL *will appreciate requests for literature*



this new Upjohn plant has
been in full production.
It is the culmination of
five years of planning and
four years of building.
These greatly expanded
Upjohn facilities keep pace
with rapid advances in
medical research.

Upjohn ***Medicine...Produced with care...Designed for health***

THE UPJOHN COMPANY, KALAMAZOO, MICHIGAN

Advertisers in your OFFICIAL JOURNAL *will appreciate requests for literature*

Interchangeable and Equally Effective

Oral

Parenteral

Clinical studies have demonstrated that the therapeutic activity of Cortone* is similar whether administered parenterally or orally. Dosage requirements are approximately the same, and the two routes of administration may be used interchangeably or additively at any time during treatment.

Although the manufacture of Cortone—probably the most intricate and lengthy synthesis ever undertaken—has imposed unprecedented difficulties, every effort is being made to increase production and, in the meantime, to achieve an equitable national distribution of this vital drug.

Literature on Request

Key to a New Era in Medical Science

Cortone®

ACETATE

(CORTISONE Acetate Merck)

(11-Dehydro-17-hydroxycorticosterone-21-acetate)

**CORTONE is the registered trade-mark of Merck & Co., Inc. for its brand of cortisone.*

COUNCIL ACCEPTED

MERCK & CO., Inc.

Manufacturing Chemists

RAHWAY, NEW JERSEY

MERCK

URGE DOCTORS TO AID P.T.A. IN ROUND-UP OF NEW SCHOOL PUPILS

(Continued from Page 33)

thinking in relation to the school health program suggests that the development of an easy, friendly relation between the child and his physician is an equally valuable outcome. Every child who learns early the physician's place in his life and has been taught in his contacts with his physician that this doctor, any doctor, is his friend will continue through the years to have an attitude toward the profession that will help to solve many of the social problems which now trouble us both individually and collectively."

DRUG GIVEN BY MOUTH RELIEVES PAIN IN SOME CANCER PATIENTS

A chemical compound which can be given by mouth is reported by seven New York doctors to be useful in bringing temporary relief to patients suffering from fatal cancer-like diseases of the white blood cells and tissues.

The oral use of triethylene melamine on 58 patients is described by Drs. David A. Karnofsky, J. H. Burchenal, George C. Armistead, Jr., Chester M. Southam, J. L. Bernstein, L. F. Craver, and Cornelius P. Rhoads in a recent issue of the *Archives of Internal Medicine*, published by the American Medical Association. The doctors are all asso-

(Continued in Back Advertising Section, Page 54)

IN ATHEROSCLEROSIS

a more favorable prognosis usually follows the use of . . .

LIPO-B

an orally effective lipotropic compound

FORMULA: Six tablets daily provide—

Choline Dihydrogen Citrate	1,800 mg.
Inositol	900 mg.
Pyridoxine HCl	12 mg.
Niacinamide	120 mg.
Riboflavin	24 mg.
Thiamine HCl	12 mg.
Calcium Pantothenate	12 mg.

DOSAGE: Two to six tablets daily.

SUPPLIED: Bottles of 100 and 1,000 specially coated tablets.

Literature and Samples on Request

Indicated in the management of EXCESSIVE BLOOD CHOLESTEROL

UNITED LABORATORIES, LTD.

PASADENA • Established 1917 • CALIFORNIA

While the patient lies abed

DERMASSAGE

helps maintain

Healthy Skin Condition

now with HEXACHLOROPHENE

Oily lotion helps prevent bed sores

The soothing, emollient character of Dermassage has made it a confirmed ally in measures for the prevention of bed sores and in massage. Its lanolin and olive oil content lubricates skin surfaces and reduces the likelihood of skin cracks and irritation resulting from dryness. A pleasant cool sensation is produced by menthol, without resort to rapid evaporation and loss of skin moisture.

Hexachlorophene gives added protection

With the addition of hexachlorophene, effective germicidal and deodorant agent of low toxicity, Dermassage has acquired greater protective value. It makes possible a lowered bacterial count on skin areas to which it is routinely applied, thus minimizing the risk of initial infection should skin breaks occur in spite of precautions.

TEAR HERE and pin to your LETTERHEAD

for a liberal Trial Sample of EDISONITE SURGICAL CLEANSER

Instruments come spotlessly clean and film-free after a 10- to 20-minute immersion in Edisonite's probing "chemical fingers" solution. Harmless to hands as to metal, glass and rubber.

EDISON CHEMICAL COMPANY
30 W. Washington St., Chicago 2

An efficient means of protecting the patient against skin discomfort or damage while confined to bed or wheel chair in hospital or home. Used and approved in thousands of hospitals, coast-to-coast, and on the recommendation of doctors, nurses and hospitals to patients returning home.

You are invited to test DERMASSAGE first hand

EDISON'S dermassage ™

— An Established Aid to Good Nursing Now with New Protective Value

EDISON CHEMICAL CO.
30 W. Washington, Chicago 2

CM6-51

Please send me, WITHOUT OBLIGATION, your Professional Sample of Dermassage.

Name.....

Address.....

Doctor...
listen to this conversation about you!

PATIENT... *There was so little discomfort in having that mole removed.*

NURSE ... *The Doctor's new technic with the HYFRECATOR is wonderful!*

PATIENT... *You can tell the Doctor I'm going to have my sister come in. She worries about a mole on her abdomen.*

NURSE ... *It's a good idea to have him look at it to make sure... and he'll know if it should be eradicated with the HYFRECATOR.*

And Doctor... Please Note

The increasingly widespread public knowledge of the danger of moles as fore-runners of skin cancer have made your patients more receptive to your suggestion that all suspect lesions be eradicated. New reprints on Precancerous Lesions are available. Write your name and address — mail for your copies.

Over 70,000
HYFRECATORS
in daily use

to eradicate moles, warts, unwanted hair and other superficial growths. Many doctors use the HYFRECATOR... High Frequency Eradicator... for fulguration and bi-active coagulation as well as desiccation. They find that the HYFRECATOR'S double spark gap power, accurately controlled and smoothly graded current... exactly meets their individual office electrosurgical demands.

The BIRTCHER Corporation
Los Angeles 32, California

ERADICATE THAT SUSPECT PRECANCEROUS LESION

To: The BIRTCHER Corp., Dept. CM 6-51
5087 Huntington Dr., Los Angeles 32, Calif.
Please send me free reprints on Precancerous Lesions and Literature on the Hyfrecator.

Name.....

Street.....

City.....State.....

CIVIL DEFENSE PLANNERS MUST INCLUDE GAS WARFARE

The possibility of nerve gas attacks from an enemy in time of war must not be overlooked in our civil defense planning, in the opinion of Colonel John R. Wood of the U. S. Army Medical Corps.

Writing in a recent issue of the *Journal of the American Medical Association*, Colonel Wood said he believed the only chemical warfare agents adequate for attacks from long range were nerve gases. The gases, he said, could be dispersed by aerial bombs which, on exploding, would send up an invisible, odorless cloud of gas.

The weather, the terrain, the scale of attack, the population density and the training resources of the people for chemical defense were some of the variables named by Colonel Wood as factors which would determine the danger zone and casualty potential in such an attack.

The exact behavior of a gas cloud in a city is not known, but presumably it would drift downwind at the effective velocity of the wind at street level, grow in size and eventually be dissipated as it mixes with uncontaminated air.

Colonel Wood lists three principles of prevention as a defense against gas. They are detection and recognition of gas, warning persons in the danger zone, and prompt use of individual or collective protection.

Our first knowledge of nerve gas attack would probably come from the recognition of its effects on the initial casualties. Automatic detector devices, he explained, may never be feasible for large cities where many would have to be installed and maintained. These are the symptoms to look for to determine whether a nerve gas attack has taken place: The victim would have difficulty in breathing; there would be pinpoint constriction of the pupils; severe casualties would become blue and vomit quickly, and, in a short time, would become unconscious, have tremors and convulsions, followed by cessation of breathing and generalized paralysis.

In case of a gas attack, according to Colonel Wood, "The public should retire promptly to gas-proof shelters, if available. If shelters are not within easy reach, refuge should be sought on the upper floors of tall buildings. Air-circulating systems of all types should be shut off, and windows and doors must be closed. All unauthorized traffic into the danger zone, both surface and subway, must be halted. Subway stations and the streets downwind from the bombed area should be evacuated promptly, the people retiring to shelters or the tallest building at hand. Motor vehicles should be pulled as near to the curbs as possible before being deserted, leaving the centers of the streets open for civil defense traffic. Surface and subway trains standing in stations in the danger zone should load promptly and proceed out of the path of the gas cloud."

All buildings, subways and vehicles must be ventilated and reported clear of gas by civil defense workers before they are reentered or people descend from the upper floors, he said.

"If these preventive measures are carried out ef-

(Continued in Back Advertising Section, Page 54)

FROM "Intractable" Asthma

ACTHAR therapy can usually control severe bronchial asthma when customary therapeutic measures have failed. ACTHAR is a life-saving measure in status asthmaticus.

Symptomatic relief has been reported to begin within a few hours after the first dose of ACTHAR, followed by marked improvement in vital and maximum breathing capacity. Remissions lasting as long as 10 months have been observed.

OTHER ESTABLISHED INDICATIONS: Rheumatoid arthritis, rheumatic fever, acute lupus erythematosus, drug sensitivities, contact dermatitis, most acute inflammatory diseases of the eye, acute pemphigus, exfoliative dermatitis, ulcerative colitis, acute gouty arthritis, secondary adrenal cortical hypofunction, alcoholism and acute delirium tremens, and severe burns.

Literature and directions for administration of ACTHAR, including contraindications, available on request.

ACTHAR is available in vials of 10, 15, 25 and 40 I.U. (mg.). The Armour Standard of ACTHAR is now accepted as the International Unit, 1 International Unit being equivalent to 1 milligram of ACTHAR.

ACTHAR

THE ARMOUR LABORATORIES BRAND OF ADRENOCORTICOTROPIC HORMONE (A.C.T.H.)

THE ARMOUR LABORATORIES · CHICAGO 11, ILLINOIS

PHYSIOLOGIC THERAPEUTICS THROUGH BIORESEARCH

A.M.A. SECRETARY'S LETTER

(Continued from Page 30)

chairman of the board of the Crowell-Collier Publishing company. The telegram was signed by George Bugbee, secretary of the American Hospital Association, and by myself as secretary of the A.M.A.

The telegram said:

"While it is true that there are some areas of disagreement between physicians and hospitals—just as there are in all human relationships—the author of this article has magnified these differences of opinion out of all proportion to the truth. His statement that 'The A.M.A. and the hospitals, which should be marching hand in hand toward better services for the sick, are locked in combat,' is nothing short of sensationalism.

"The doctors and hospitals have always cooperated in efforts to deliver the best possible medical care and will continue to do so. Any differences are being ironed out peaceably around the conference table."

A.M.A. Prepares New Television Handbook. A fully illustrated 28-page television handbook which gives helpful information and suggestions to doctors, local medical societies, and similar groups, who are invited to offer television programs in their field, is being released by the A.M.A. Bureau of Health Education.

Written by Harriet Hester, the handbook helped to familiarize the novice with the facilities and practices of a television studio so that he will become better acquainted with the medium with which he is working. A glossary of most used terms is included. Introductory remarks are made by Dr. W. W. Bauer, director of the bureau.

Dr. James R. Bloss Dies in Huntington. Dr. James R. Bloss, 69, of Huntington, West Virginia, who served as a member of the A.M.A. Board of Trustees from 1935 to 1945, passed away in Huntington, April 21, from duodenal ulcer complications. He held many society offices, including that of president of his state society. He served as a member of the A.M.A. House of Delegates from 1920 to 1935.

Dr. Bauer Addresses Newspaper Editors. The spring meeting of the National Editorial Association was held in New York recently, and one of the speakers was Dr. Louis H. Bauer, chairman of the A.M.A. Board of Trustees, who told the newspapermen that the press will find a powerful ally in the medical profession if it ever is threatened with government domination "as the medical profession has been threatened."

Dr. Bauer explained the results of A.M.A.'s big newspaper advertising campaign last fall and then added:

"During the past two years the doctors and the newspapermen of American have come into closer contact and closer understanding than ever before. They have joined in a common crusade against forces that threaten essential American freedoms. In that crusade they have demonstrated once again what a tremendous, dynamic agency for liberty this nation has in its free, unregimented press."

GEORGE F. LULL, M.D.

Let Waiting Patients

READ

TODAY'S HEALTH

TODAY'S HEALTH is the one source of reliable information for lay people, and is doing an excellent job in educating the public on the important problems of health in a language which can be understood by everyone.

1 year, $3.00 • 2 years, $5.00

AMERICAN MEDICAL ASSOCIATION

535 N. DEARBORN CHICAGO 10

California MEDICINE

OFFICIAL JOURNAL OF THE CALIFORNIA MEDICAL ASSOCIATION
© 1951, by the California Medical Association

VOL. 74 JUNE 1951 No. 6

Effective Treatment of Socialistic Hypertension

DONALD CASS, M.D., *Los Angeles*

A YEAR ago Dr. R. Stanley Kneeshaw, then president of the California Medical Association, described Uncle Sam as a sick man. I want to supplement his findings and report to you on the state of the patient.

Uncle Sam is still a sick man but his condition has improved considerably in the past year. His disease has been conclusively diagnosed as socialistic hypertension and it is comforting to all of us to know that he has improved and shows signs of further gains. The prognosis is excellent.

The reason for the improvement is that scientific medicine has been called into the case, to replace the quackery of the bureaucratic planners who were dabbling in something beyond the realm of their knowledge. Doctor M.D. has awakened to the fact that he must bend his best efforts to cure a deteriorating condition which would otherwise carry away the patient and all that surrounds him.

To state the case bluntly, the medical profession has at last been aroused to recognition that it must engage in the economics and the politics of our population. No longer can medicine confine its activities to the sickroom or the laboratory; as physicians we must take an active part in the social and the political life of our country. We must roll up our sleeves and get into the political arena if our profession is to survive as a vibrant, factual scientific pursuit.

The alternative is the enslavement of physicians by government with the certain leveling-off to the lowest common denominator. If we want to maintain high standards of medical practice, we must put our efforts into economic and political pursuits as well as into the scientific endeavors for which we have been especially trained.

Address of the President, California Medical Association, at the 80th Annual Session, Los Angeles, May 13-16, 1951.

During the past year it has been my privilege to travel several thousand miles about the state of California, visiting with county medical societies, woman's auxiliaries and other groups. The object of these many meetings was to bring home to the physicians of California the need for each to apply himself to the betterment of public relations for the entire profession. We tried to put each physician into his own proper sphere by pointing out that the public relations of each physician are, in sum total, the public relations of the profession. I hope that at least a portion of the profession has given some thought to this problem as a result of those visits.

It was most heartening to note, in traveling around the state, that many of the county medical society members are young men. The membership of our Association has doubled in the last ten years and has increased almost 75 per cent in the last seven years. New medical blood has been coming to our state. Many of the new physicians are young men who served their country during the recent war and determined to settle here after their active duty was finished.

Not only are many of these new physicians in the younger age brackets, they are also in the high intelligence brackets—the product of a strict system of medical education which selects only the cream of the crop for our modern physicians.

When I was a medical student, about half the applicants for medical schools were accepted. Today there are seven, eight, ten applicants for every opening in medical schools, and the deans and faculty committees wisely choose those applicants who exhibit the highest mental ability along with the other attributes we generally look for in a good physician.

We have need of this youth and this intelligence. We must put it to work in fighting the miasma of

socialism which rises from the political swamps of our nation. We must practice the best medicine we know, and in addition we must fight with all in our power to prevent the socialization of our profession, not only because we are immediately affected but because the proposed socialization of medicine is the first step in a nationwide plan for the government to take over all forms of endeavor.

The do-gooders picked on physicians as the soft spot in driving their socialistic wedge into our economy. Physicians were to be socialized first and others would follow because of the bankruptcy into which socialized medicine would throw the nation. When the nature of the sly offensive against them became apparent, physicians rallied first for defense and gradually for attack, so that now, instead of being the soft spot, we are the hardened point leading the entire community in education as to what is being attempted by the social planners who would take away our American way of living.

The continued attack by government agencies on the honesty of the American Medical Association and organized medicine has lost a great deal of its craft and cunning and has taken the form of tirades, such as the one by Congressman Dingell printed in the *Congressional Record*. The attack on Dr. Elmer Henderson, president of the A.M.A., which was sent to all physicians by the Committee for the Nation's Health, indicates how the supporters of socialism are at desperate lengths to continue the attack when there is so little basis of truth on which to base any further logical arguments.

Recently I saw a quotation from "Alice in Wonderland" in which the Mock Turtle said to Alice: "When we were little we went to school in the sea. We had the best of education, reeling and writhing, of course, to begin with, and the different branches of arithmetic, ambition, distraction, uglification, and derision." It seems as though the social planners are schooling themselves in the same way that the Mock Turtle was schooled. Their attacks on the American free enterprise system are being fronted by those who use ambition, distraction, uglification and derision as their ammunition.

WELCOME AID FROM MANY QUARTERS

The publication of these attacks has become less and less front page news and practically all of our best journals and our best newspapers and writers are quoting more and more from Dr. Henderson and the A.M.A. and less and less from the Ewings and the Frothinghams and the Dingells and the Murrays. This is evidence that the socialistic toxin in Uncle Sam's system is being neutralized by the efforts of the American physicians.

It is no accident that our activities and our campaign of education drew twice as much from our friends in support of our campaign as we ourselves put in. Help came from many and many Americans who still believe in America—who believe that Americans can think and do for themselves, who prefer earning a square meal to languidly accepting the sugar-tit of socialism. As was noted in Leone Baxter's report to the A.M.A., this outside support did not come from the large corporations or the large money interests. Rather, some sixty thousand contributions, in the form of space in newspapers and magazines and time on television and radio, came from the merchant on Main Street. This means a lot, because the Main Street merchant is a good, sound segment of the backbone of our nation. Add to this the help given by organized labor and the inference is amazingly pleasant.

LABOR OFFICIALS' ATTITUDE

At the outset, among the strongest supporters of the Administration's socialized medicine plan were certain top brass officials of labor. In the past year, especially since last November, there has been a distinct change in the tone of remarks made in addresses by some of these men. In June 1950, when Mr. Harry Becker of the United Auto Workers* addressed the A.M.A. convention in San Francisco, he dwelt on the necessity of a compulsory tax-supported medical care plan. But in an address later in the summer in Kansas City, while he said that labor is interested in welfare plans, he left out the compulsory part. This may seem a trivial thing, but it is a very important change in Mr. Becker's speeches.

Mr. William L. Hutcheson, vice-president of the American Federation of Labor and president of the United Brotherhood of Carpenters and Joiners of America, in his speech at the A.M.A. meeting in Cleveland last December, denounced socialized medicine and stated: "Any way you look at it, socialized medicine is no bargain, and the carpenters want none of it." The impact couldn't have been greater if the government planners and political advocates of socialized medicine had been told they had to go to work for a living.

We hope to continue in our campaign of education to reach deeper and deeper into the grass roots of medical practice so that more and more the physicians will become the advisors of their patients and of their legislators on those matters on which they are the best informed—that is, matters pertaining to the health of the American people. I hope that the California Medical Association will recognize that it is impossible to relax for an instant in its campaign, and that all of you who are here at this convention will go back to your local groups, not only to your county medical societies, but to your hospital staff meetings and meetings with your luncheon clubs—Rotary, Kiwanis, Lions, Optimists—to your religious groups, your social groups, your card clubs, your P.T.A.'s, and continue to serve as advisors on problems of medical care for all of your friends and associates as well as your patients. This is the way that the medical profession can really spread knowledge and education to those who are voting and to those who need it most.

*Director, Social Security Department, United Automotive-Aircraft-Agricultural Implement Workers of America, C.I.O.

Now that the sleeping giant of medicine has stirred himself, has made himself felt, I am sure that the future means that the giant will take his place with other giants in educating the world. The individual enterprise and opportunity which built our country up to the prestige that it enjoys today must go on, and physicians must stay in the forefront of the campaign to educate people as to the best way of living. Nobody but a physician can advise people on medical topics.

The old wheeze that a liberal is a man who has his feet firmly planted on thin air still holds. The solid, intelligent, thinking public is finding out that this foundation of thin air supporting our social-minded opponent is an insecure base indeed on which to build a national economy.

Uncle Sam now has a physician who is giving him full attention. And the physician is calling on his neighbors to help. In the Woman's Auxiliary he has found eager aid from a power that, as any man knows, is never to be underestimated.

We must go on from here, keep it up, take advantage of the new blood we have, and travel along the road that we have started, not only to prevent further inroads by the social-minded public ownership group, but to drive them out, and to put a base of sound sense under our efforts for social improvements.

5300 Hollywood Boulevard.

Results of Long-Continued Cortisone Administration in Rheumatoid Arthritis

Edward W. Boland, M.D., and Nathan E. Headley, M.D., *Los Angeles*

SUMMARY

The administration of cortisone acetate to patients with rheumatoid arthritis usually produces prompt and often dramatic suppression of the disease manifestations. The effects of the hormone are not lasting, however, and after withdrawal relapse ensues. For sustained improvement in a chronic disease such as rheumatoid arthritis, it appears that cortisone must be given more or less continuously. This raises the question whether administration may be continued effectively and safely for long periods.

Seventy-six patients with rheumatoid arthritis were given cortisone in the hope that treatment could be continued uninterruptedly for extended periods. For various clinical reasons it was necessary to discontinue treatment in 16 of these before six months, but the remaining 60 patients received the hormone uninterruptedly for six to 15 months. By using initial large suppressive amounts, then gradually reducing the dosage, and finally employing smaller maintenance doses, adequate degrees of rheumatic control were maintained in approximately two-thirds of the original 76 patients. The ability to sustain satisfactory improvement varied indirectly, in general, with the severity of the rheumatoid arthritis. The chief detriment to better results in the more severe cases was the intervention of adverse hormonal side effects which developed frequently when large or relatively large maintenance doses were required to support satisfactory improvement.

Unwanted signs of hormonal excess developed in 40 per cent of cases at some time during the course of treatment. Most of them were mild or transient and disappeared or lessened when the dose of cortisone was reduced, but when the dose was reduced the degree of improvement often declined also.

During prolonged cortisone therapy evidence of functional suppression of the adrenal cortices, as indicated by a decreased response of circulating eosinophils to exogenous ACTH, was present. The depression of cortical function was temporary, however. Whether irreversible damage may result when the drug is employed for longer periods cannot yet be answered.

WHEN cortisone acetate is administered in adequate doses to patients with active rheumatoid arthritis, prompt and often dramatic improvement of the clinical and certain laboratory manifestations of the disease results. Articular pain, stiffness and tenderness are diminished with impressive consistency and such reversible changes as articular or bursal effusion, periarticular swelling, muscle weakness and atrophy, subcutaneous nodules, mild flexion contractures, low-grade fever, weight loss, anemia and accelerated erythrocyte sedimentation rates are corrected or reduced. Unfortunately, however, the effects of cortisone are not lasting and, with almost as impressive consistency, the disease manifestations reappear when the hormone is withdrawn. For sustained improvement the drug must be given more or less continuously. The ultimate course of rheumatoid arthritis is probably not altered significantly by cortisone and the beneficial effects from its administration reflect a suppressive, not a curative, influence.

Presented as part of a symposium on Cortisone and ACTH before the Sections on General Medicine and General Practice at the 80th Annual Meeting of the California Medical Association, May 13-16, 1951, Los Angeles.

Patients with rheumatoid arthritis apparently have normally functioning adrenal glands[8, 12] as indicated by lack of clinical signs of adrenocortical insufficiency and absence of evidence of hormonal deficiency from the various tests now available.[14] The amounts of cortisone needed for satisfactory antirheumatic response are large and probably greater than the quantities of corticosteroids which the patient's own adrenal glands would supply in normal circumstances. Hence the improvement which results from cortisone administration does not represent correction of a glandular deficiency by substitution therapy but rather a favorable effect from an exogenously induced state of hormonal excess. Cortisone exerts potent influences on the functions of many organs and tissues, and with its continued administration unfavorable hyperadrenocortical effects may also be promoted. Aside from the beneficial action on rheumatic manifestations, such unwanted signs of hypercortisonism as disturbances in electrolyte, water and carbohydrate metabolism, skin changes such as hypertrichosis, acneiform eruption, pigmentation and striae, abnormal fat deposition, menstrual disorders, mental

changes and retardation of wound healing may develop with its use.

Since the suppressive influence of cortisone endures for only as long as the drug is being given, and since rheumatoid arthritis is a chronic and often progressive disease, it would appear necessary to maintain therapy indefinitely, at least in most cases, if improvement is to be sustained. The practicability of employing cortisone continuously for long periods raises three main questions: (1) Can the antirheumatic action of the hormone be maintained with long-continued use, or will improvement eventually deteriorate and relapse occur? (2) Can administration be continued for long periods without causing significant hormonal side reactions? (3) Will prolonged uninterrupted treatment produce irreversible damage to vital organs, especially permanent impairment of adrenocortical function? With a view to obtaining information which might aid in answering these questions, an investigation of the effects of uninterrupted cortisone therapy in patients with rheumatoid arthritis was begun in January 1950.

PRELIMINARY STUDY

In September 1950 preliminary observations with regard to 42 patients treated continuously with cortisone acetate given intramuscularly for periods ranging from two to six months were reported.[1] The dosage plan followed consisted of three stages: (1) period of initial large suppressive doses; (2) period of gradual dose reduction; and (3) period of extended smaller maintenance dose administration. Initial suppressive doses were given until the clinical manifestations were brought under control. For severe and moderately severe cases 200 or 300 mg. of the hormone was administered on the first day, followed thereafter by daily injections of 100 mg.; for moderate and mild cases, 100 mg. was given on the first and subsequent days. When rheumatic activity had been suppressed satisfactorily by 100 mg. doses, the daily amounts of cortisone were then reduced gradually in a step-like fashion, reductions being made by 5 to 10 mg. per dose at intervals of every five to seven days. The smallest daily amount of cortisone required to maintain adequate, although not necessarily absolute, control was considered as the maintenance dose for the patient. The maintenance dose was then continued, with adjustments in the daily amounts being made from time to time as changes in the clinical response or the development of objectionable reactions dictated. Sustained complete remission of the disease was not sought; it was found more prudent at times to be content with satisfactory improvement short of adverse effects rather than to strive for total suppression with larger and unsafe doses.

By first suppressing the disease with large doses of the hormone it was possible to retain control with smaller maintenance doses in 32 (76 per cent) of the 42 patients. The size of the maintenance dose required for control depended chiefly on the severity of the rheumatoid arthritis. In general, more of the hormone was needed in severe cases than in less severe cases: With average daily doses of 50 mg. or less given intramuscularly, for example, adequate suppression of the disease was maintained in 100 per cent of mild cases, 89 per cent of the moderate, 53 per cent of the moderately severe, and in only 7 per cent of the severe. The incidence of unwanted hormonal effects was decidedly less when smaller daily amounts of the drug were used; signs of hypercortisonism developed in only 8.3 per cent of patients when the daily dose was 65 mg. or less and in 33 per cent when doses of 100 mg. daily were employed. Because the periods of observation were relatively short (two to six months) the question as to whether cortisone could be administered safely and effectively for periods of many months or years could not be positively answered.

PRESENT STUDY

The observations to be reported herein result from a continuation and expansion of the previously reported investigation. With the hope of administering cortisone uninterruptedly for prolonged periods in each instance, 76 patients with chronic rheumatoid arthritis were started on treatment between January 1 and September 1, 1950. In 16 cases treatment was stopped for various clinical reasons within the first six months. The remaining 60 patients, however, have received cortisone continuously for longer than six months, and 27 of them for periods exceeding one year. Experiences with these 60 patients constitute the principal basis for this report.

Selection of Patients: Of the 76 patients, 45 were women and 31 were men. Ages varied from 19 to 30 years. The arthritis was restricted to peripheral joints in 56 patients, to the spine in 3, and 17 had combined involvement of the peripheral joints and the spine. The average duration of the disease for the group was 7.2 years with a range from seven months to 26 years. All patients had active disease and acceleration of the erythrocyte sedimentation rate, although they presented varying degrees of functional impairment and structural change. The rheumatoid arthritis was classified as severe in 36 patients, moderately severe in 27, moderate in 12, and mild in one.

Manner of Administration: During the early months of the investigation all patients received the hormone by intramuscular injection. Since June 1950 most patients have been given the drug by mouth, either in tablet form or as a liquid prepared by mixing the suspension, as supplied for parenteral use, with a flavored syrup. Fifty-four of the 60 patients treated for long periods have received oral preparations. Most of those initially treated by the intramuscular route were transferred to oral medication, and all of those started on cortisone since June 1950 have received the drug by mouth. When comparing statistics dealing with dosage requirements, it must be kept in mind that the amount of cortisone needed by mouth for equivalent anti-

rheumatic control may be larger than the amount needed when it is given by intramuscular injection; the oral requirement may be one-fifth to one-third greater.[2]

The same general dosage plan, as described under the preliminary study, was adhered to regardless of the route of administration. Results were decidedly best when full suppressive amounts of the hormone were given at the beginning of treatment and the dose then gradually reduced until the smallest dose needed to control the manifestations was reached. With oral preparations, gradual step-down of dosage was accomplished by reducing the amount 12.5 mg. at a time at intervals of every five to seven days. The amount prescribed orally was usually taken in divided doses four times daily; and intramuscular injections, when used, were given daily or every other day. Most patients were treated in the office from the beginning, but a few with severe disease were hospitalized for short periods initially.

Grading of Results: The response to therapy was graded on the basis of objective and subjective improvement into five categories: very pronounced, pronounced, moderate, slight, and unimproved.[1, 8] To retain a very pronounced degree of improvement in severe and moderately severe cases, it may be necessary to employ large daily maintenance doses of the hormone. With the long-continued use of large doses, such as 100 to 150 mg. per day, however, troublesome signs of hormonal excess are frequent and often they become so pronounced as to necessitate discontinuation of treatment. After large daily amounts of cortisone had been given as early suppressive therapy, attempt then was made to use the minimum dose required for satisfactory, not necessarily total, control of the disease. By such a plan it was hoped to prevent, as far as possible, serious signs of hypercortisonism. The degree of sustained improvement from maintenance doses was considered adequate if the patient was able to perform his normal business or duties comfortably without analgesics, but with perhaps some restriction in physical activity. In most instances "adequate control" was equivalent to improvement graded as pronounced or better.

RESULTS OF PROLONGED CORTISONE ADMINISTRATION ON RHEUMATIC MANIFESTATIONS

The maintenance dosage requirements and the degrees of clinical improvement were subject to variations from time to time in many patients, but these can be dealt with herein only in generalities. The statistics presented are based on clinical evaluations completed on March 31, 1951, and undoubtedly they will differ from results compiled at a later date when this group of patients has been followed longer.

Over-all Results: As was noted previously, cortisone therapy was stopped within the first six months in 16 cases. The reasons were as follows: (1) In eight patients the degree of improvement was not sufficient, even with the use of large daily doses, to warrant prolongation of treatment. In four patients the improvement was never more than moderate, and in two (both with spondylitis only) no improvement at all was noted. Two patients experienced excellent early response but after two and four months, respectively, relapse occurred despite increasing amounts of the hormone. Five of the eight patients had very severe rheumatoid arthritis, and whereas massive doses of cortisone might have produced better results, long-continued use of the hormone in such amounts would have been unsafe and hence impractical. (2) In seven instances the drug was stopped because unduly troublesome hyperadrenocortical effects developed. In five of these cases the patients had severe disease and desired degrees of relief could not be supplied with daily doses small enough to avoid side reactions. (3) One patient experienced complete clinical remission after four months of treatment. The dosage was gradually lowered and finally administration was discontinued. Remission lasted for nearly five months but then gradual recrudescence ensued and recently treatment was resumed.

The remaining 60 patients were treated without interruption for periods ranging from six to 15 months. A satisfactory degree of improvement (pronounced or very pronounced) was maintained in 48 of the patients; the other 12 remained improved but the degrees of control were considered minor and inadequate (Table 2).

If the entire original group of 76 patients is considered (and if one patient who had remission is excluded), the manifestations of rheumatoid arthritis were held under satisfactory suppression for long periods with maintenance doses of cortisone in slightly less than two-thirds (48 of 75) of the patients (Table 1).

General Results in Patients Treated for Periods of Six Months or Longer: In the 60 cases in which treatment was continued for periods of six to 15 months, the degree of improvement maintained was

TABLE 1.—*Cortisone Therapy in Rheumatoid Arthritis: Overall Results in Entire Series of 76 Patients*

Severity of Disease	No. of Cases	Adequate Anti-rheumatic Control for 6 Months or Longer		Inadequate Anti-rheumatic Control but Therapy Continued for 6 Months or Longer		Cortisone Discontinued Before 6 Months			
		No.	Per Cent	No.	Per Cent	Inadequate Initial Response	Early Deterioration of Improvement	Adverse Hormonal Reactions	Clinical Remission
Severe	36	17	47.2	8	22.2	5	1	5	0
Moderately Severe	27	19	70.4	4	14.8	1	1	1	1
Moderate	12	11	91.7		0	0	0	1	0
Mild	1	1	100		0	0	0	0	0
Totals	76	48	63.2	12	15.8	6	2	7	1

graded as very pronounced in 18 (30 per cent), pronounced in 30 (50 per cent), moderate in 11 (18.3 per cent), and slight in one (1.7 per cent) (Table 2).

Of the 12 patients who retained only minor degrees of improvement, five had adverse effects from the drug which prevented the use of doses sufficient for proper regulation of the disease, and five (three with severe and two with moderately severe rheumatoid arthritis) had no more than moderate improvement even with full amounts of the hormone. In the remaining two patients excellent control was sustained for ten and thirteen months, respectively, on doses averaging 37.5 to 62.5 mg. per day; and then, for no apparent reason, relapse occurred and increasing amounts of cortisone, up to 125 mg. per day, did not reestablish satisfactory response.

Results in Relation to Severity of Disease: It has been reported previously that the results from both large initial suppressive and from smaller maintenance doses of cortisone are distinctly better in patients with less severe rheumatoid arthritis.[1] Actually, the likelihood of promoting and retaining major degrees of improvement depends more on the severity of the disease than on any other single factor. In some severe cases adequate relief is not obtained even with large amounts of the hormone, while in others in which there is excellent response the patient cannot tolerate the required large doses for long periods because of attendant objectionable hormonal reactions.

In the 25 severe cases treated for more than six months, pronounced improvement was preserved in 16 and very pronounced improvement was upheld in only one (Table 2). The rheumatoid arthritis was graded as severe in 36 of the original 76 cases in the series—and in 11 of these cases treatment was stopped before six months either because of insufficient improvement or adverse reactions. For the whole series, therefore, less than one-half of severe cases (17 of 36) were adequately controlled by long-term therapy.

In the moderately severe classification, very pronounced or pronounced improvement was maintained in 19 of the 23 (82.6 per cent) cases treated for a long period and in 19 of the 27 (70 per cent) original cases.

The best results were obtained in cases of less severe rheumatoid arthritis: Pronounced or very pronounced improvement was obtained in all cases of moderate or mild degree of severity treated for a long period, and in 11 of the 12 original cases so graded.

Size and Stability of Maintenance Doses: Although there were notable exceptions, the daily amounts of cortisone required to support satisfactory regulation of the rheumatoid arthritis varied directly with the severity of the disease—in general, the more severe the disease, the more cortisone required. The average daily maintenance dose for the various groups was as follows: severe, 80.5 mg.; moderately severe, 64.1 mg.; moderate, 55.4 mg.; mild, 37.5 mg. (Table 1). The average dosage for severe and moderately severe cases would have been higher if the amounts needed for satisfactory results could have been given in all cases; this was not possible, however, as the dosage frequently had to be modified, with detriment to antirheumatic control, because of the advent of adverse reactions. The tabulated dosages are for oral administration in the majority of cases (54 of 60) and the average requirements are probably slightly higher than they would be for a comparable group treated wholly by parenteral injection.

During the course of observation variations in the amounts of cortisone needed for control were common and in most cases it was necessary to change the dosage from time to time. In 36 of the 60 patients (60 per cent) dosage requirements were quite stable and only minor adjustments were needed periodically. In nine cases the dosage remained fairly constant except that temporary exacerbations occurred on one or more occasions which required "booster doses" for the resumption of adequate control. Booster doses usually consisted of 100 or 125 mg. of cortisone daily for four or five days, followed by gradual reduction to the previous level. The need for temporary increases was at times provoked by some additional stress such as physical overactivity, emotional upset, intercurrent infection and fatigue. At other times departures from the usually required amounts appeared to be caused by spontaneous changes in disease activity.

In four patients the amounts of hormone needed fluctuated rather widely from time to time. One patient with moderately severe rheumatoid arthritis, for example, remained under almost complete con-

TABLE 2.—*Long-Continued Cortisone Therapy in Rheumatoid Arthritis: Results in Patients Treated Uninterruptedly for 6 to 15 Months*

Severity of Disease	No. of Cases	Maintenance Dose Required (mg.) Average for Group	Range	Degree of Improvement Maintained: Very Pronounced No.	%	Pronounced No.	%	Moderate No.	%	Slight No.	%	Degree Improvement Judged Adequate: Adequate No.	%	Inadequate No.	%	Adverse Hormonal Effects No.	%
Severe	25	80.5	37.5-125	1	4	16	64	7	28	1	4	17	68	8	32	14	56
Moderately Severe	23	64.1	37.5-100	8	34.8	11	47.8	4	17.4	0		19	82.6	4	17.4	8	34.8
Moderate	11	55.4	37.5-75	8	72.7	3	27.3	0		0		11	100	0		2	18.2
Mild	1	37.5	37.5	1	100	0		0		0		1	100	0		0	
Totals	60	68.8	37.5-125	18	30	30	50	11	18.3	1	1.7	48	80	12	20	24	40

trol for eight months on maintenance amounts averaging 50 mg. per day. For no apparent reason the cortisone requirement increased and for the next four months daily doses of 100 to 125 mg. were used. The requirement then gradually lessened and for three months up to the time of this report excellent antirheumatic effect has been maintained with 37.5 to 50 mg. a day. Such variations in dosage may well be due to spontaneous fluctuations of disease activity. Not infrequently the course of rheumatoid arthritis is subject to ups and downs of activity, and when this occurs it is reasonable to expect that the dosage requirement of a suppressive drug would vary with natural oscillations of the disease.

In five patients the cortisone requirement gradually increased over the months. The initial response to suppressive doses was excellent in each instance and good control was maintained on fairly stable doses for long periods. Deterioration of improvement then began and increasing amounts of the hormone were needed to support relief. Two patients became more and more active physically and, disregarding advice, assumed additional business responsibilities; but no reason for the declension of results was elicited in the other three. In two patients the disease finally became refractory to even large doses and eventually cortisone administration was stopped after 10 and 13 months, respectively, of continuous therapy.

In six patients, after long periods on relatively constant doses, there was gradual decrease in the amounts of cortisone needed. Maintenance doses as low as 25 mg. per day finally became sufficient for three patients and, with the hope that remission might continue, treatment was stopped after seven, nine, and ten months respectively; relapse occurred in one patient after two months, in another after seven weeks, and in the third withdrawal has been too recent to permit comment.

ADVERSE EFFECTS FROM PROLONGED CORTISONE ADMINISTRATION

Twenty-four (40 per cent) of the 60 patients had undesirable hormonal side effects at some time during the course of administration. Twelve had a single abnormality and 12 had multiple reactions; a total of 45 adverse signs were observed in the group. In many instances the signs of cortisone excess were of minor order or transient and were considered of little or no consequence by both the patients and the authors. Of the 45 side effects, 31 were graded as mild, 13 as moderate, and one (spontaneous vertebral fracture) as severe. In two patients the signs became sufficiently troublesome to necessitate cessation of therapy, after seven months of administration in one and after 11 months in the other.

As has been reported previously, unfavorable reactions are fewer and usually less pronounced when smaller doses of cortisone are used.[1] Of the 24 patients who had side effects, 17 were being maintained with total daily doses of 75 mg. or more, six were receiving 62.5 mg. per day, and one was being given 50 mg. daily. Because, in general, the amount of cortisone needed for suppression varies directly with the severity of the disease, the incidence of untoward reactions was higher in the more severe cases.

The individual adverse hormonal reactions which were observed are listed in Table 3. Experiences with them differ little from those reviewed previously by the authors[1, 3, 4] and by other investigators,[6, 8, 9, 12] so only a few will receive comment. The most common abnormalities were rounding of the facial contour, and edema. Both of these conditions usually responded readily to dosage reduction, and the elimination of water could be hastened with saline or mercurial diuretics. The occurrence of significant edema may be largely avoided by placing patients on a salt-poor diet from the start of treatment. Mild to moderate hypertrichosis developed in seven women; in two it became cosmetically troublesome and the excess facial hair was removed by electrolysis. As experience with cortisone has enlarged, fewer instances of undue psychic stimulation have been encountered; use of the drug is now avoided in patients with psychotic histories or with overt emotional instability. Also, mental stimulation and insomnia are less when smaller maintenance doses are employed and, it is believed, when oral medication is used.

Two other reactions deserve mention. Significant decreases in glucose tolerance developed in three patients, one with a normal pretreatment tolerance curve and two with latent diabetes beforehand. Each patient has had occasional glycosuria, but with moderate qualitative carbohydrate restriction (and without insulin) the abnormalities have been well controlled. One patient had spontaneous fracture of the twelfth dorsal vertebra after 53 days of treatment; he had coexistent latent diabetes mellitus and pronounced osteoporosis of the spine before treatment. The fracture responded favorably to orthopedic management and cortisone was not discontinued. Spontaneous fractures have been reported by other investigators.[7, 11] Spinal roentgenograms for osteoporosis should be made in any case in which the candidate for cortisone or ACTH therapy is elderly.

EFFECTS OF PROLONGED CORTISONE THERAPY ON ADRENOCORTICAL FUNCTION

Certain laboratory and clinical observations suggest that cortisone causes a temporary depression of adrenocortical function. During administration there is a reduction in the urinary excretion of 17-ketosteroids[8, 13] and, as gauged by the eosinopenic test, there is a diminished response to pituitary adrenocorticotropic hormone.[13] Immediately or soon after the withdrawal of cortisone, some patients complain of weakness and exhaustion and these symptoms have been interpreted as being due to adrenocortical insufficiency.[8, 13] With short-term or relatively short-term administration, the abnormalities have been temporary; at varying intervals following cessation of treatment, asthenia has disappeared and the results of tests have reverted to

TABLE 3.—*Individual Adverse Hormonal Side Reactions in Patients Receiving Continuous Cortisone Therapy for 6 to 15 Months*

Case No.	Sex	Average Daily Dose at Onset (mg.)	Onset in Relation to Length of Treatment			Severity of Reaction	Type of Reaction											Fate of Reaction on Continued Treatment			
			Before 3 Months	Between 3 and 6 Months	After 6 Months		Fracture	Purpura	Pigmentation	Mooning of Face	Skin Tags	Thyroid Enlargement	Nervousness	Edema	Menstrual Disturbance	Acne	Hypertrichosis	Decreased Glucose Tolerance	Progressed	Stationary	Improved	Disappeared
1	M	75.0	+			Mild												+		+		
2	F	75.0		+		Mild											+		+			
3	F	75.0	+ (1, 2, 3, 4)*			Mod. (1, 2, 3, 4)					+ (4)	+ (3)	+ (2)	+ (1)					+ (3&4)		+ (2)	+ (1)
4	M	100.0		+ (1, 2, 3, 4)		Mod. (1 & 2) Mild (3 & 4)			+ (4)	+ (1)			+ (2)			+ (3)				+ (1&4)	+ (2)	+ (3)
5	F	87.5		+		Mild				+										+		
6	M	75.0	+ (1 & 2)			Mild (1 & 2)				+ (1)						+ (2)					+ (1&2)	
7	M	100.0			+	Mild				+										+		
8	F	100.0 (1&2) 62.5 (3&4)	+ (1 & 2)		+ (3 & 4)	Mod. (1 & 2) Mild (3 & 4)		+ (2)		+ (4)				+ (1)			+ (3)		+ (3&4)			+ (1&2)
9	F	75.0			+	Mild											+		+			
10	F	100.0	+ (1 & 2)			Mod. (1) Mild (2)				+ (2)				+ (1)						+ (2)	+ (1)	
11	M	75.0	+ (4)	+ (1 & 2)	+ (3)	Mild (1) Sev. (2) Mild (3)	+ (2)			+ (1)	+ (3)							+ (4)	+ (3)	+ (4)	+ (2)	+ (1)
12	F	75.0	+ (1)	+ (2)		Mod. (1) Mild (2)				+ (2)				+ (1)							+ (1)	+ (2)
13	F	100.0 (1) 50.0 (2)	+ (1)	+ (2)		Mild (1 & 2)				+ (2)				+ (1)							+ (2)	+ (1)
14	F	75.0		+ (1, 2, 3)		Mod. (1) Mod. (2) Mild (3)				+ (1)				+ (2)	+ (3)				+ (1,2,3)			
15	F	100.0			+	Mild								+								+
16	F	62.5	+			Mild								+								+
17	F	62.5		+ (1)	+ (2)	Mild (1 & 2)									+ (2)		+ (1)		+ (1)	+ (2)		
18	M	75.0	+			Mild												+		+		
19	F	62.5			+ (1 & 2)	Mod. (1) Mild (2)				+ (2)				+ (1)							+ (1)	+ (2)
20	F	62.5		+ (1 & 2)		Mild (1 & 2)									+ (2)	+ (1)				+ (1&2)		
21	F	62.5	+			Mild											+		+			
22	F	62.5		+		Mild											+		+			
23	F	50.0			+	Mild											+		+			
24	M	100.0		+		Mild				+											+	

*In cases in which there was more than one kind of reaction, the numbers in parenthesis designate which kind, as listed in the column headed "Type of Reaction." In Case 3, for example, in following the line across it will be noted that edema, nervousness, thyroid enlargement and skin tags occurred in the first three months. In the last four columns on the same line (under the heading "Fate of Reaction on Continued Treatment") it will be noted that thyroid enlargement and skin tags progressed, that nervousness improved, and that edema disappeared.

normal.[13] No studies relating to the recovery of adrenocortical function after long-term administration have been reported.

Fear has been expressed that the long-continued uninterrupted use of cortisone might produce irreversible atrophy and permanent functional insufficiency of the adrenal cortices. It has been repeatedly observed that regressive morphologic changes may occur in certain ductless glands following the administration of large amounts of the hormone secreted by the gland. In 1938 Ingle, Higgins and Kendall[10] found that atrophy of the adrenal cortex developed in rats which had been given large amounts of cortisone; cytoplasmic bodies were reduced in size and the cells were depleted of lipoid material; the extent of the atrophy resembled those changes which result from anterior pituitary insufficiency in hypophysectomized animals. More recently Sprague and co-workers[13] demonstrated regressive changes in the adrenal cortices, at necropsy, of patients treated with cortisone for a variety of conditions. In some cases the glands weighed considerably less than normal and histologically the cortices, especially the zonae fasciculatae, were narrowed and the cells were devoid of lipoid material. From these pathologic studies there were, of course, no indications that the atrophy produced by cortisone was permanent, but other observations suggest that the anatomic and functional changes are probably reversible. In cases of Cushing's disease which result from a unilateral tumor of the adrenal cortex, the contralateral cortex undergoes distinct atrophy. Following surgical extirpation of the hyperfunctioning tumor, signs of adrenocortical insufficiency may develop immediately unless appropriate postoperative therapy is instituted, but eventually the contralateral cortex recovers and signs of adrenocortical insufficiency disappear.

To determine the recovery rate of adrenocortical function following prolonged uninterrupted cortisone therapy, the drug was withdrawn from 11 patients in the present series who were treated continuously for periods ranging from eight to 14 months. With the hope of minimizing post-cortisone asthenia and the development of acute articular flare-ups, withdrawal was accomplished slowly; the daily dose was gradually reduced over periods of 10 to 16 days. Maintenance doses for these patients had ranged from 37.5 to 100 mg. per day. The following tests of adrenocortical function were made: (1) response of circulating eosinophils to a single 25 mg. dose of pituitary adrenocorticotropic hormone (ACTH) (test of Thorn, Forsham, Pruntz and Hills[15]); (2) urinary excretion of 17-ketosteroids; (3) urinary excretion of corticosteroids (11-oxysteroids). The tests were performed while usual maintenance doses were being continued, 48 hours following complete cessation of the hormone, and every two to three weeks thereafter until the determinations returned to accepted normal values.

Details of this study will be reported separatcly.[5] As gauged by the response of circulating eosinophils to adrenocorticotropic hormone (ACTH), adrenocortical function was depressed in each case during the administration of cortisone—a decrease in eosinophils, four hours after a 25 mg. injection of ACTH, either did not occur or was definitely less than the accepted normal decrease of 50 per cent. At varying intervals after cessation of treatment, adrenal function, as indicated by this test, recovered. Following withdrawal, the eosinophil response gradually improved, becoming normal within 10 to 80 days in every case. There appeared to be no direct correlation between the degree of initial unresponsiveness or the rate of functional recovery with the length of cortisone administration, the size of the maintenance dose or the completeness of clinical improvement during treatment.

COMMENT

With the uninterrupted administration of cortisone acetate it has been possible to preserve satisfactory improvement for periods of six to 15 months in approximately two-thirds of cases initially started on treatment. Major degrees of suppression could not be supported in the remaining one-third of cases for several reasons. The most common detriment to good antirheumatic effect was the intervention of objectionable hormonal side effects; their appearance often necessitated lowering of the dosage to levels insufficient to uphold adequate clinical improvement. A few patients had gradual deterioration of improvement, and eventual refractoriness to the drug developed in two patients. Despite large suppressive doses of the hormone, effective response could not be established in some cases. However, massive doses (150-200 mg. per day) of cortisone for long periods were not used even in resistant cases, as in the authors' experience such amounts have almost invariably led to the development of troublesome signs of hormonal excess. The authors' attitude in regard to dosage for long-continued treatment with cortisone has been as follows: to employ amounts short of serious hormonal side reactions; to continue therapy if the arthritis can be satisfactorily controlled with safe doses—if not, to stop administration unless the patient is content with a minor degree of improvement.

Unfortunately the poorest results, percentagewise, have been in the more severe cases of rheumatoid arthritis in which relief was most needed. Actually less than one-half of the original group of cases graded as severe have remained well-controlled for long periods. The failures in this group have been due principally to the fact that large doses of the hormone are required for satisfactory control and often it is not possible to give such doses without provoking signs of hypercortisonism; frequently a compromise betwen good antirheumatic effect and safety of administration must be made. It is apparent that for many patients with severe disease other measures designed to alter the activity of the disease will be needed in combination with cortisone if superior results are to be attained. At present the combined use of gold salts and cortisone is being

investigated in the hope that chrysotherapy may subdue part of the disease activity so that smaller, and safer, doses of the hormone will suffice to suppress the rest. Several schemes of administration are being tried by other investigators[9]: (1) repeated short courses of cortisone; (2) short courses of cortisone alternating with short courses of ACTH; (3) continuous combined use of cortisone and ACTH; (4) combined use of cortisone and ACTH in short courses; (5) simultaneous use of cortisone with other steroids. Evaluation of the merits of these various plans cannot be made at this time and must await the conclusion of investigative studies now in progress.

Serious hormonal side reactions have been largely avoided during the prolonged use of smaller maintenance doses of cortisone. Although numerically they have occurred frequently—in 40 per cent of cases—most have been of minor order and many have been transient. Their appearance has been disadvantageous chiefly because they may force reduction in dosage to the sacrifice of clinical response. Certainly a hormone with less tendency to produce adverse reactions, or one with equal liabilities but greater therapeutic effectiveness milligram for milligram, would be an advantage in the practical management of patients.

As other investigators have noted, a definite suppression of adrenocortical function develops during cortisone therapy. If the eosinophil response to ACTH is a valid test of adrenocortical function, it appears that the depressed function is temporary and the adrenal cortices recover even after replacement therapy has been given uninterruptedly for periods up to 14 months. Whether irreversible changes might develop in the adrenal cortex or anterior pituitary gland after continuous administration for longer periods cannot yet be answered. No evidence has evolved from studies by the authors to indicate that irreversible damage has been produced in other organs or tissues.

Never before have such powerful antirheumatic weapons as cortisone and ACTH been available. The ability of the drugs to promote prompt, though transitory, reversal of the activity in rheumatoid arthritis has made them extremely valuable experimental tools, and an unprecedented amount of clinical and laboratory research has already been stimulated. As therapeutic agents, however, various difficulties and dangers attend their use, and as experience widens, their limitations in the treatment of rheumatoid arthritis become more clear. These hormones have not solved the management of this disease—indeed, they have created new problems of their own. In the light of present knowledge, cortisone and ACTH should not be considered as drugs of choice for the treatment of all cases of rheumatoid arthritis. It should not be forgotten that good results may often be obtained from the employment of more conservative measures and from the administration of gold salts. If a fair trial with more usual methods of treatment does not produce improvement, then the use of these newer hormonal substances may be considered. When the physician realizes that neither cortisone nor ACTH will cure rheumatoid arthritis, that their favorable effects consist merely of temporary suppression of the disease, and that in instituting them the patient is committed to prolonged and expensive treatment which is not without hazard, such a conservative attitude will be appreciated. Despite their introduction, rheumatoid arthritis remains a challenge to therapy, and although cortisone and ACTH are powerful adjuvants in the management of some cases, they are not the therapeutic answers for all cases, and apparently are not cures for any case.

2210 W. Third Street.

REFERENCES

1. Boland, E. W., and Headley, N. E.: Management of rheumatoid arthritis with smaller (maintenance) doses of cortisone acetate, J.A.M.A., 144:365-372, Sept. 30, 1950.

2. Boland, E. W., and Headley, N. E.: Oral use of cortisone acetate, J.A.M.A., 145:8-11, Jan. 6, 1951.

3. Boland, E. W.: Relation of the adrenal cortex to rheumatic disease: A review of some recent investigations, Ann. Rheum. Dis., 9:1-20, March 1950.

4. Boland, E. W.: Effects of cortisone and adrenocorticotropic hormone (ACTH) on certain rheumatic diseases, Calif. Med., 72:405-414, June 1950.

5. Boland, E. W., Reynolds, J., and Headley, N. E.: Effects of prolonged uninterrupted administration of cortisone on adrenal cortical function. Data to be published.

6. Freyberg, R. H.: Effects of cortisone and ACTH in rheumatoid arthritis, Bull. New York Acad. Med., 26:206-211, April 1950.

7. Graham, W.: Discussion, Proceed. 1950 meeting Amer. Rheum. Assoc., Ann. Rheum. Dis., 9:400, Dec. 1950.

8. Hench, P. S., Kendall, E. C., Slocumb, C. H., and Polley, H. F.: Effects of cortisone acetate and pituitary ACTH on rheumatoid arthritis, rheumatic fever and certain other conditions: A study in clinical physiology, Arch. Int. Med., 85:545-666, April 1950.

9. Hench, P. S., Slocumb, C. H., Polley, H. F., and Kendall, E. C.: Effect of cortisone and pituitary adrenocorticotropic hormone (ACTH) on rheumatic disease, J.A.M.A., 144:1372-1335, Dec. 16, 1950.

10. Ingle, D. J., Higgins, G. M., and Kendall, E. C.: Atrophy of the adrenal cortex in the rat produced by the administration of large amounts of cortin, Anat. Rec. 71:363, July 1938.

11. Margolis, H. M., and Caplan, P. S.: Effects of pituitary adrenocorticotropic hormone (ACTH) in rheumatoid arthritis, J.A.M.A., 145:382-389, Feb. 10, 1951.

12. Sprague, R. G., Power, M. H., Mason, H. L., Albert, A., Mathieson, D. R., Hench, P. S., Kendall, E. C., Slocumb, C. H., and Polley, H. F.: Observations on the physiologic effects of cortisone and ACTH in man, Arch. Int. Med., 85:199-258, Feb. 1950.

13. Sprague, R. G., Power, M. H., and Mason, H. L.: Physiological effects of cortisone and pituitary adrenocorticotropic hormone (ACTH) in man, J.A.M.A., 144:1341-1347, Dec. 16, 1950.

14. Thorn, G. W., Bayles, T. B., Massell, B. F., Forsham, P. H., Hill, S. R. Jr., Smith, S. III, and Warren, J. E.: Medical progress: Studies on the relation of pituitary-adrenal function to rheumatic disease, New Eng. Jr. Med., 241:529-537, Oct. 6. 1949.

15. Thorn, G. W., Forsham, P. H., Pruntz, F. T. G., and Hills, A. G.: A test for adrenal cortical insufficiency: The response to pituitary adrenocorticotropic hormone, J.A.M.A., 137:1005-1009, July 17, 1948.

Problems in Intramedullary Nailing of Femoral Fractures

Ralph Soto-Hall, M.D., and Neil P. McCloy, M.D., *San Francisco*

SUMMARY

Intramedullary nailing, an improved method for treatment of fractures of the shaft of the femur, is still in a transitional stage. Experience in 35 cases indicates that supplementary fixation as safeguard against separation or overriding often is advisable, particularly in the presence of considerable fragmentation. Wire loops, cross screws and, in some cases, a Collins band modified in such a way as to avoid occlusion of blood supply, have been used for this purpose.

For strength and rigidity, the rod used should be as great in diameter as the medullary space can accommodate. A method of preoperative determination of the size of rod to use has been devised. As the intramedullary rod may bend or break, it is advisable that patients be cautioned against full weight bearing on the injured leg too soon after operation.

INTRAMEDULLARY nailing has been found ideally suited for the treatment of fractures of the shaft of the femur and promises to be the method of choice in a large number of such injuries. The functional results have been far superior to those obtained with other methods, and the period of hospitalization considerably shortened—from five or six months to an average of three and one-half weeks in the authors' experience. However, as this method is still in a transitional stage of development,

From the Division of Orthopedic Surgery, University of California School of Medicine, San Francisco.

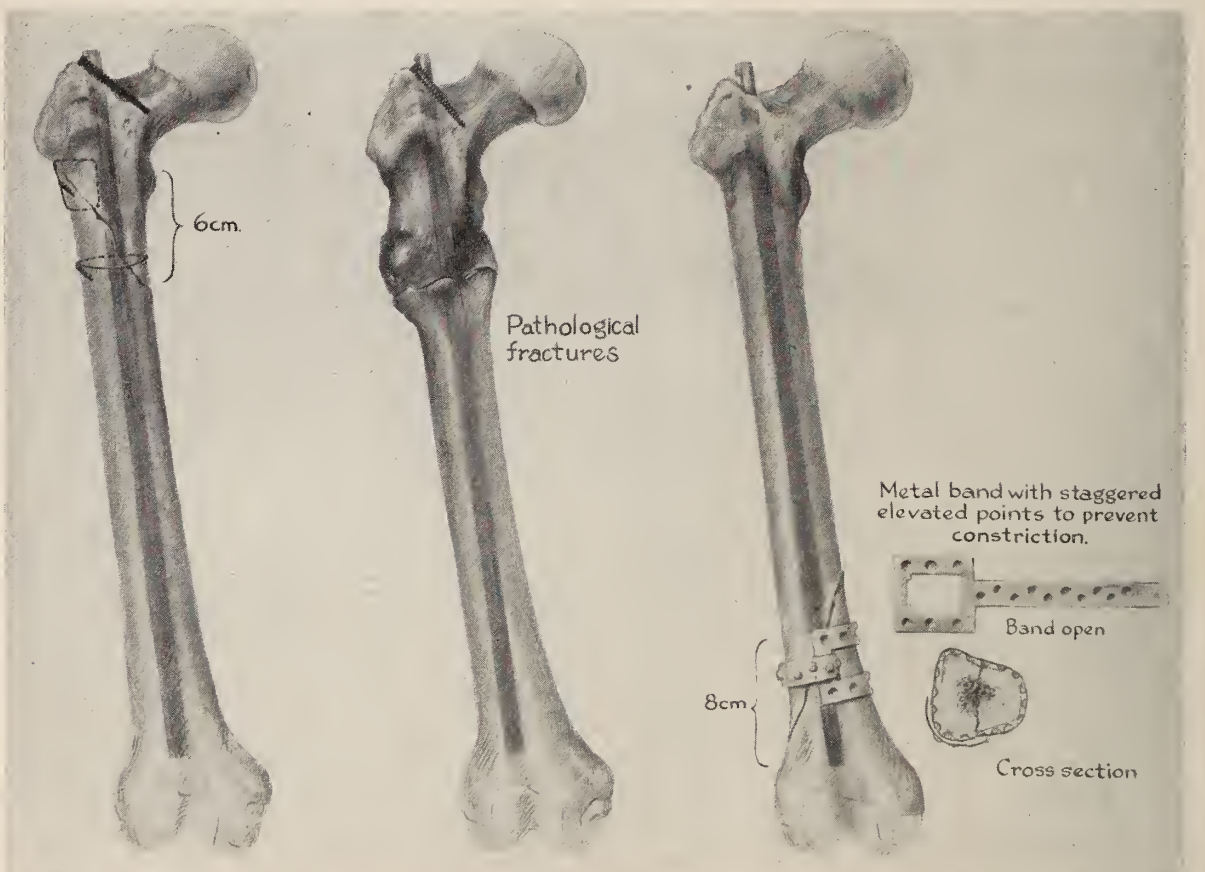


Figure 1.—Methods of supplementary fixation for high or low fracture of femur. Drawing at right is of Collins band modified to prevent occlusion of blood supply.

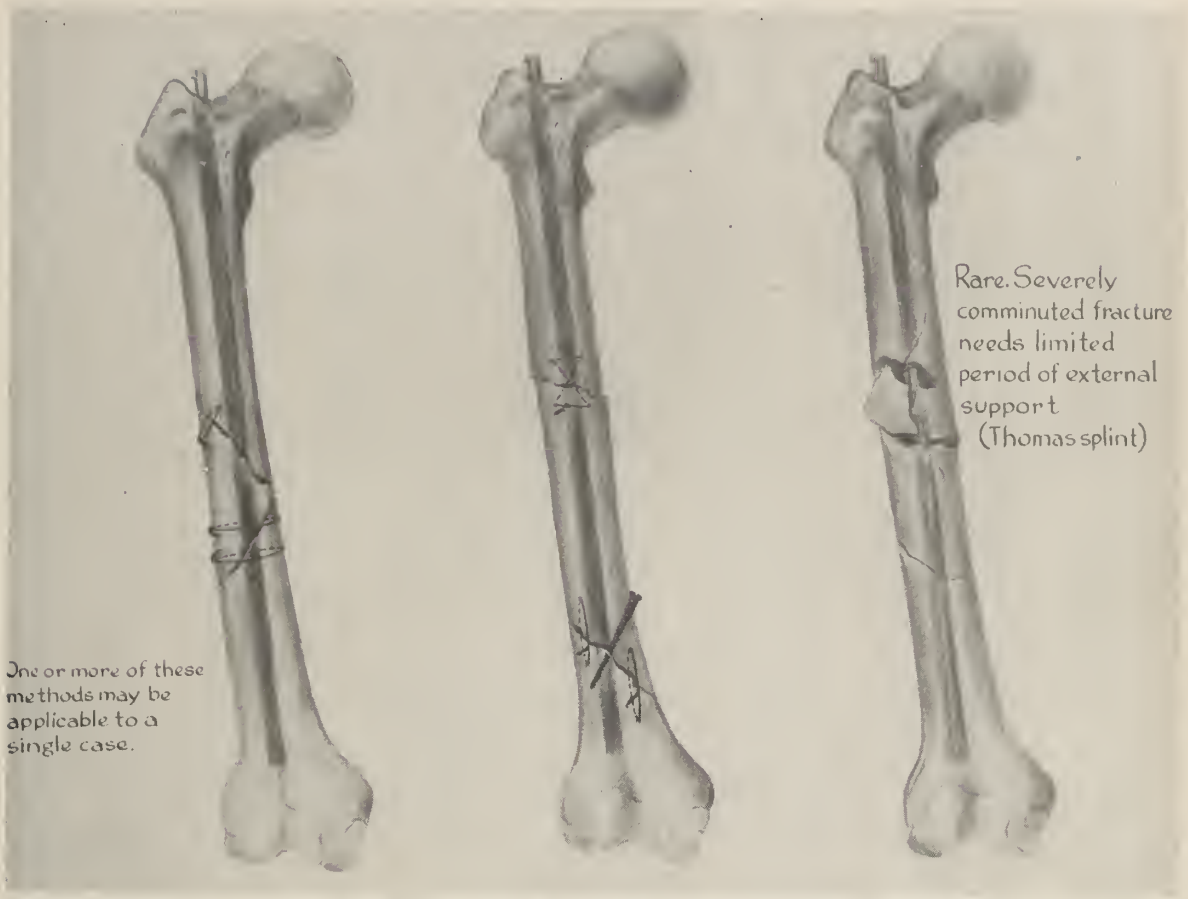


Figure 2.—Methods of supplemental fixation for use in support of comminuted fractures. Methods of supplemental fixation that prevent the beneficial effects of impacting stress should be avoided.

a review of observations and of the difficulties encountered in 35 cases of femoral nailing should be of value.

Complications in this method of treatment can be classified into three main groups—those due to general constitutional complications, to technical or operative errors, and to postoperative conditions.

General complications have played a surprisingly minor role. Embolism, which was greatly feared, did not occur in the series here reported, nor in a large series which is to be reported in a National Research Council study of this problem.[2] The authors believe that the open operation, with clearance of the medullary canal, probably diminishes the danger of embolism. The design of the nail or rods is also an important factor. Pelletier[1] studied the changes in intramedullary pressure and the amount of marrow fat displaced during the introduction of solid diamond-shaped nails as compared with these factors when the hollow clover leaf was used. It was found that the volume of fat displacement was significantly smaller with the hollow nail, that the drainage of the medullary canal was more effective, permitting free egress of fat, and that the intramedullary pressure arising during insertion of the hollow nail was definitely lessened. It is probable that asymptomatic embolic phenomena occur frequently in cases in which intramedullary nailing is used, but they have not been observed to endanger the patient.

Among constitutional considerations is the age of the patient. Advanced age seems to be only a relative contraindication. In the present series the oldest patient was 74 and the youngest 14 years of age. There appears to be limited indication for the method in treating very young patients in whom bone growth has not yet terminated, because more conservative methods of treatment are quite effective in such cases.

TECHNICAL CONSIDERATIONS

It is important to make careful selection of cases with regard to the kind of fracture. Best suited to fixation by intramedullary nailing are fractures in the middle third of the bone, but the method is also readily applicable in cases of fracture near the ends of the bone if supplementary fixation is used. In fact it is the authors' belief that since the intramedullary rod serves only to keep the bone in alignment, in most cases it is advisable to provide additional support—wire loops, screws or metal bands —as a safeguard against distraction or overriding.

Figure 3.—*Upper*—Placement of metal measuring band used to determine preoperatively the length and gauge of intramedullary rod to be used. The band is fixed to the side of the uninjured leg. *Lower*—X-ray films taken from above. Comparison of holes in band with intramedullary space indicates size of rod to select.

In cases of severely comminuted fracture, the major fragments should be bound together if possible. Particularly if there are butterfly fragments, use of screws or wire loops or both (Figures 1 and 2) to tie the middle fragment to the smaller one reduces the hazard of displacement. Supplementary fixation is imperative if the fracture is within 6 cm. of the lesser trochanter or 8 cm. of the adductor tubercle. In any supplemental fixation the desirable effect of compression at the site of fracture should be preserved. Because external fixation nullifies the distinct benefits of intramedullary nailing, it should be avoided if possible, although a short period of support in a Thomas splint may be necessary in certain instances of severely comminuted fracture (Figure 2, *right*).

When a medullary rod is used after removal of a segment of the femur, wire loops to avoid distraction should be applied because, once the impacting force of the musculature is lost, considerable separation of the fragments may occur. (The only case of non-union in the present series was in such circumstances.) Because loops and cross screws were not considered adequate for supplementary internal fixation, in some cases in which there was a good deal of fragmentation, a modification of the Collins band was devised (Figure 1, *right*). Nubs were fixed to the inside of the band in staggered pattern, much as hobnails on the sole of a shoe. When the band is drawn tight, only the nubs actually rest against the bone, like piers of a bridge, holding the fragments together without occluding the blood supply.

In general, patients must be carefully prepared for the operation, as it is a procedure of some magnitude. The authors have used blood transfusions routinely, as well as antibiotics for prophylaxis.

Among technical errors, one of the most common is use of a nail of improper size. A nail which is too thick may split the shaft, or cause distraction, or even jam part way into the cavity. If the nail is too slender, fixation may be inadequate, or the nail may bend or fracture as it is being inserted. Nails which do not fit snugly migrate proximally. In all cases in the present series in which angulation of the nail occurred, the nail was 9 mm. or less in

Figure 4.—Bending due to unauthorized weight bearing. Inaccurately straightened, with healing in angulated position. Due to difficulty in placing the fulcrum in comminuted fractures, an S-shaped deformity in the rod may be produced by attempts to straighten the angulation.

diameter. This would argue strongly for the procedure of reaming the narrowed portion of the medullary cavity, which is at the junction of the middle and upper thirds, in order to use as large a nail as possible. The nail must always be placed snugly but not too tightly. If it is short, it gives inadequate fixation: if too long, it may penetrate the anterior femoral cortex or even the knee joint. Penetration in the lower part of the shaft can be avoided by using lateral x-ray films at the operating table to observe the progress of the nail during the latter stages of insertion. If the Küntcher nail projects too far proximally, chronic irritation of the gluteal muscles occurs, leading to pain, gluteal fibrosis and bursa formation, and persistent limp.

Accurate preoperative determination of how thick and how long a nail to use is essential. This can best be done by the use of scanograms on the sound leg. For use in this procedure, the authors have designed

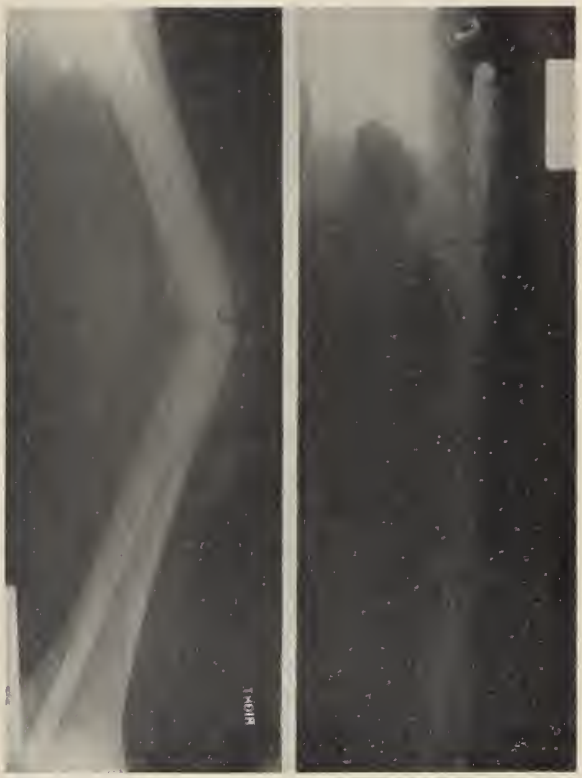


Figure 5.—Angulation caused by a fall nine weeks postoperatively, with straightening of the 9 mm. nail the same day. The nail was weakened at the site of angulation by destruction of the clover leaf architecture, and it bent again the next day with the patient in bed.

a metal measuring strip which is taped in place on the outside of the leg (Figure 3). There are a number of holes of various sizes drilled through the strip, each hole corresponding in diameter with the caliber of one of the various nails available. Thus, in an x-ray film in which both the measuring strip and the bone are viewed together, the size of nail to be used may be determined by comparing the holes in the strip with the diameter of the medullary space. As the medullary cavity and the measuring strip are the same distance from the film, there is no disproportion between them in the roentgenogram. There is no distortion lengthwise because the two films are taken with the roentgen tubes at the level of the hip and at the level of the knee.

POSTOPERATIVE COMPLICATIONS

Bending of the rod (Figure 4), usually caused by weight-bearing too early, was the most frequent postoperative complication in the present series. With pain absent, most patients have a feeling of security and of solidity of the femur—"pin euphoria"—which tempts them to stand and walk without support. Some patients have been so indiscreet as to drive automobiles—one even drove a municipal bus—during the first week of treatment. Hence it is necessary to warn the patient frequently against premature full weight-bearing, although partial weight-bearing is desirable because of the

Figure 6.—Fracture of the nail after two years of delayed union following osteotomy for femoral shortening. As supplementary internal fixation was not used, distraction occurred because of loss of muscle impacting forces. Fascial arthroplasty had been done some years before the leg-shortening operation.

stimulus of compression. Distinction should be made between normal bowing of the rod in conformance with the physiologic curve of the femur, and angulation which is clinically significant.

As soon as angulation of a nail is recognized, it should be corrected. This can be done by manipulation against a pelvic bar on a fracture table with fluoroscopic visualization or by applying a plaster spica cast, then inserting wedges at the site of the deformity. The authors have had good results with manual correction but in certain cases in which the deformity is severe or has recurred, the problem is more serious. The following case is illustrative: The patient had bilateral femoral fractures which were pinned. A fall in which he landed on the right knee caused clinically visible angulation (Figure 5). Realignment was carried out immediately. Angulation recurred within 24 hours. To study this problem an experiment was carried out. A rod of the same diameter as that in the patient's leg was placed in a vise. With a scale, traction was then applied. Traction of about 100 pounds was needed to bend the rod as much as the rod in the leg was bent. The experimental rod was then completely straightened, and once again the angulation was reproduced by similar methods. In the second experiment only 75 pounds of traction was needed to deform the nail, and in a third only 65 pounds. It seems, therefore, that severe angulation reduces the strength of the metal at the point of angulation. With this in mind, the patient was treated not by a completely new nailing which would have been an operation of some magnitude, but by withdrawing the nail about 2 inches so that the weakened part was moved above the fracture site. This completely corrected the deformity and permitted uneventful healing.

Fracture of the rod also may occur. In one case a nail was placed following osteotomy to shorten the femur 2½ inches (Figure 6). This operation was done early in the present series and supplementary fixation was not used. Distraction occurred within a few days, and ultimately non-union developed. A bone-grafting operation was delayed for economic reasons. Two years after the operation the intramedullary nail broke at the level of the fibrous union when the patient was walking. The proximal fragment of the rod was withdrawn easily. To remove the distal fragment, a 2½-inch slot was cut in the lateral aspect of the femur just below the fracture. Working through the slot with an electric drill and a nail set, a ridge was made on the rod so that it could be more firmly grasped and enough traction applied to pull it out.

350 Post Street.

REFERENCES

1. Pelletier, L. F.: Nail design, an important safety factor in intramedullary nailing (Surgery, Oct. 1950), Medical News Letter, 16:13.

2. Smith, Hugh: Personal communication.

Chronic Urticaria Following Penicillin Therapy

ERVIN EPSTEIN, M.D., *Oakland*

SUMMARY

Urticaria developed in six patients three to ten days after the intramuscular injection of penicillin, and the condition persisted for from three to fifteen months. The suffering, disability and expense that resulted from the injection indicates that physicians should make certain that the patient who receives penicillin has a true indication for its use.

THERE is a tendency in present day medicine to use an overwhelming barrage of therapeutic agents to fight infections. This philosophy of combating disease with such weapons can be justified only as long as the therapeutic agent is considered to be effective and is not likely to harm the patient. Reactions to intramuscularly administered penicillin have been mild in most instances. On the other hand, severe paratherapeutic incidents such as urticaria, angioneurotic edema, arthralgia, fever, and leukocytosis have not been rare, although of short duration. Recent observation of six patients with chronic urticaria following penicillin therapy has caused further doubt regarding the relatively innocuous nature of this antibiotic. One of the cases here reported (Case 2) was presented before the San Francisco Dermatological Society, and from the discussion that followed, it was obvious that such cases are not unusual.

REPORT OF CASES

CASE 1: The patient, 33 years of age, the wife of a dentist, received two injections of penicillin in oil and wax in February, 1948, for pneumonia. She denied previous exposure to penicillin. Ten days after the first injection, generalized urticaria developed. Despite treatment with epinephrine, Benadryl,® Pyribenzamine® and Trimeton,® the eruption had persisted with remissions and exacerbations. When first observed by the author on September 28, 1948, the patient was very depressed and several times had threatened to kill herself. She remained under treatment until October 8, 1948, receiving Thephorin® and amphetamine by mouth and autohemotherapy. Little benefit was obtained by this regimen.

CASE 2: A truck driver, 34 years of age, cut a finger on a truck door July 20, 1949, and was given one injection of procaine penicillin as a prophylactic measure. Ten days later severe urticaria, arthralgia, nausea, fever and leukocytosis developed, necessitating four days of hospitalization. The patient denied previous allergic disease, mycotic infections or injections of penicillin. Despite treatment with epinephrine, ephedrine, and antihistaminics parenterally and by mouth in doses up to 800 mg. per day, the urticaria and angioneurotic edema persisted. Among other therapeutic measures employed might be mentioned intravenous injections of calcium, autohemotherapy, elimination diets, sedation, aminophylline intravenously, Hapamine® and local measures. Scratch tests with 112 materials including foods, plants, epidermal and incidental agents, were carried out, with negative reaction in all instances. The patient was depressed and at times considered the possibility of suicide.

CASE 3: A 38-year-old stevedore was cut on the knee with the dorsal fin of a frozen tuna on December 1, 1949. The same day, the patient was given an injection of procaine penicillin. Four more injections were given, the last one on December 8. On December 6, "hives" appeared on the feet, then became generalized, necessitating hospitalization. The eruption has persisted to date with varying remissions and exacerbations. Treatment was similar to that in Case 2. The patient, who was extremely depressed, had a previous and familial history of infantile eczema and asthma.

CASE 4: A 33-year-old refinery worker received a course of penicillin therapy for syphilis in 1946 without untoward reaction. In January, 1949, he was given one injection of penicillin for "bronchitis." Three days later, a generalized urticarial eruption appeared. This has persisted to date with daily fluctuations in intensity. The patient also had mild pedal dermatomycosis. Treatment consisted of epinephrine and antihistaminics as well as fungicidal therapy to the feet. The patient stated that he was very nervous and that the intensity of the eruption varied with his mental state.

CASE 5: A 48-year-old painter was referred for consultation on March 23, 1950. Two or three injections of procaine penicillin had been given five months previously in the treatment of syphilis. The patient said he had never had penicillin previously, had never had "allergic diseases" or evidence of a cutaneous mycotic infection. Ten days after the first injection, urticaria developed and seven days of hospitalization was required. The urticaria cleared for one week and then recurred. The patient continued to receive bismuth injections for the spirochetal infection. Discontinuing this medication and staying off work did not lessen the hives. The eruption persisted despite two more hospital entries and treatment with procaine intravenously, epinephrine hypodermically and intramuscularly, various antihistaminics, local applications, an elimination diet, etc.

CASE 6: A 13-year-old girl who had two wisdom teeth extracted in April, 1950, was given one injection of procaine penicillin immediately afterward. Ten days later urticaria developed and at the time of writing has persisted for three months. She was treated mainly with various antihistaminic agents. There was no history of previous penicillin therapy, "athlete's foot" or allergic disease.

DISCUSSION

Because of the suffering, disability and expense apparently caused by penicillin, each of the six patients remarked independently that he would rather

have the infection for which the penicillin was given. In two instances, penicillin was given as prophylaxis against wound infection. In one, the antibiotic was administered for "bronchitis." Another patient received penicillin after dental extractions. In the fifth and sixth cases there was definite indication for penicillin therapy—pneumonia and syphilis. In the five cases in which the patients had not had penicillin previously, urticaria developed about ten days after the first injection. In the case in which penicillin had been given previously for the treatment of syphilis, the hives appeared three days after the first injection the second time the antibiotic was used. Only one patient had clinical evidence of associated mycotic infection. Only one patient was known to have allergic sensitivity.

Three of the patients had severe depression. Two considered suicide but neither carried it out. The third patient was not sufficiently depressed to discuss such a possibility. The fourth and fifth patients stated that they were very "nervous." The sixth patient was only 13 years old.

It should be noted that at the time of the last observation before this report was written, all six patients still had urticaria.

447 Twenty-ninth Street.

Prophylactic Psychotherapy Before Desexualizing Operations

L. Bryce Boyer, M.D., *Berkeley*

SUMMARY

To lessen the hazard of postoperative mental trauma, psychiatric preparation of patients with patently faulty psychic adjustment is advisable before operations entailing removal of genital organs.

NO reputable physician would voluntarily cause a patient with latent psychosis or hidden severe psychoneurosis to become manifestly emotionally ill. Yet it is probable that most practitioners can recall well-meant actions which, in retrospect, seem to have precipitated or aggravated psychic illness. If hindsight is to be of value, it must be converted to foresight which will help in avoiding repetition of such mistakes. The following is a case in point:

REPORT OF A CASE

The patient was a 46-year-old woman, separated from her husband, who for some years had held a responsible job as a secretary. She was observed over a period of about five years by a highly respected general practitioner. The patient complained of headaches, insomnia, nervous tension, and occasional hot flashes. Moderate hypertension was noted. A "nervous breakdown" had occurred about 20 years previously, following the failure of the patient's marriage. In discussion the patient revealed—and her relatives confirmed—that she was domineering, selfish, asocial, and critical and that she believed in living by will power.

Upon examination of the abdomen because of complaint of pain, the uterus was observed to be greatly enlarged and tender. The patient was not told oophorectomy might be necessary. At operation, endometriosis necessitated removal of the ovaries. The surgeon noted that "there was apparently some shock at the loss of the ovaries."

After the operation the patient worried continuously about insanity, complained constantly of severe headaches and leaned heavily on sedatives and analgesics containing codeine. She acted angrily toward relatives and friends and was unable to continue working. Psychiatric consultation was refused for a year despite exhaustion, despair, headaches and fear of insanity. Later, in psychiatric interviews, guilt for sexual fantasies was disclosed. The patient dated the illness from the time of the operation. She appeared to be angry rather than depressed. Persecutory delusions developed. Protracted vis-a-vis interviews and a brief course of electroshock therapy were given. Some improvement followed.

It is common knowledge that psychiatric illnesses are more prevalent at certain periods of life, including the menopausal era. That genital operations and injuries are potentially psychologically very dangerous because of the castration threat, is equally well known.

In the case here reported there was much material pertaining to loss of value as a sexual object and loss of self-esteem at having been desexualized. It would be foolhardy to assert without equivocation that the psychotic reaction might have been prevented if the patient had been handled differently preoperatively. Nevertheless, the possibility remains. The perceptive physician who observed the patient over a long period was concerned about her mental health to the extent that he consulted her relatives about her prior to her manifest breakdown. It seems incongruous that this same careful physician, who knew that the patient was a societal misfit, who knew that she had had a "nervous breakdown" in the past, and who was well aware of the incidence of menopausal psychoses and the castration threat of genital operations, did not attempt to more completely prepare the patient mentally for the operation. He could have talked with her some days to some weeks before the proposed date of operation, informing her that it might be necessary to remove the ovaries. It would then have been possible for him to observe the patient's reactions to this prospect. He might also have insisted that the patient consult a psychiatrist for preoperative evaluation and possible prophylactic psychotherapy. That the operation was needed is beside the point. That the patient herself probably did not want a diagnostic interview is likewise not germane.

As problems which are brought out in the open and fully discussed usually cause less anxiety than those shrouded in mystery, it might be well for physicians who are to do potentially desexualizing operations to spend more time in the preoperative psychologic preparation of patients. It can be legitimately assumed that traumata of such operations are potentially more devastating to patients who have previously made poor personality adjustments. An abbreviated anamnesis in addition to the observation of the patient's habitus, attitudes and reactions will generally suffice to help the surgeon decide whether the patient is a psychiatric liability.

Although the author knows of no statistical studies which indicate the incidence of psychiatric illnesses precipitated by castrating operations, it is his opinion that physicians should request competent psychiatric evaluation before performing elective, destructive, genital operations on patients whose psychic adjustment is patently faulty.

2500 Ashby Avenue.

A Simple Retentive Dressing for Fractures of the Clavicle

JOHN T. LELAND, M.D., *Mill Valley*

THE advent of Velpeau's and the army's wooden cross method of immobilization during healing of fracture of the clavicle has modified only in degree the validity of Pilcher's observation (cited by Russ in 1905) that "those methods which are efficient are intolerable and those which are tolerable are inefficient."

A new, relatively comfortable and otherwise advantageous method of support and bandaging by which the fractured ends of a clavicle are held in approximation and alignment, with the surrounding musculature relaxed, has been devised. In this method the hand on the injured side is placed in such a position—over the breast near the axilla on the affected side rather than across the breast on the opposite side—that there is neither traction nor compression nor torsion at the site of fracture.

A wide, sturdy chest belt, a short crutch, a seven-yard roll of 3-inch gauze stockinet, and a nylon-covered sponge-rubber shoulder pad are the materials used (see Figure A). Attached to the belt are six buckles—three at the front and three at the back—which are used as anchoring points for the bandage. At a point on the belt above the hip are several pouches, one above another, into any of which the stem of the crutch may be placed so that the shoulder is supported at the optimal level. Figure B illustrates the first step in the bandaging procedure—the belt in place and a strap in which a water pad is fixed, dangling from one of the anterior buckles. First the dangling strap is thrown over the shoulder but is not yet drawn tight. Then a slit is made in the stockinet four feet from the end and the patient's arm is thrust into it (Figure C). The loose end beyond the finger tips (Figure D) is thrown over the injured shoulder and drawn diagonally across the back until the elbow is in acute flexion and the hand on the injured side is drawn into position against the breast on the injured side. To maintain this position during the remainder of the bandaging procedure, the patient holds the loose end of the bandage in the hand on the opposite side. (Ultimately this end is buckled into the back of the belt.) With the coiled end of the bandage, two turns are made around the retracted arm in a rising spiral, then two turns around the chest, spiralling downward (Figure D). The crutch is then put into place (Figure E) with the stem in the proper socket in the belt, and two more turns of the bandage are made around the chest and over the stem of the crutch. Thence the bandage is spiralled down the arm and forearm (leaving the olecranon uncovered) to the wrist. There it is reversed and spiralled upward to the elbow. From the elbow it is drawn over the spindle of the crutch (Figure F) so that the elbow is supported and the shoulder lifted. The remaining step is to unroll the rest of the stockinet, running it from the forward end of the crutch spindle, over the shoulder. At the point at which it crosses the fracture site it is slit and the sponge-rubber pad inserted in the slit. The loose end is then put through a buckle at the back of the belt and drawn snug. The water pad is placed atop the sponge and the end of the strip holding it is pulled through a rear buckle. The fracture site may be uncovered for inspection at any time by releasing ends of the bandages from the buckles (Figure G).

Stationer's paper fasteners, rather than pins or adhesive tape, are used where necessary to prevent slippage of the bandage. With the points bent, they give greater security and smoothness.

The advantages of the method are:

1. The deadweight of the arm and shoulder on the injured side is supported and the hand is placed in such a position that there is a minimum of strain in any direction at the site of fracture.*

2. The bandage is light and porous rather than rigid. It causes no scalding pull on the skin beneath it. A slit may be made in the bandage over the dorsum of the hand for powdering.

3. The rest of the apparatus—the belt and crutch—does not prevent the patient from reclining comfortably.

4. Occasional inspection of the fracture site is easily accomplished.

5. The patient may move the retracted forearm enough to relieve muscular fatigue.

3 Madrona Street.

REFERENCE

Russ, R.: A retentive apparatus for fractures of the clavicle, J.A.M.A., 45:1086-1087, Oct. 7, 1905.

*This simple test is suggested to the reader: Assume that the right sternoclavicular joint is not a joint but a fracture. Press the finger tips of the left hand against the joint. Let the right shoulder sag. Then, with the shoulder still sagging, place the right hand over the left breast. Note the stress at the joint—stress which would be borne at the site of fracture if the clavicle were broken. Now move the right hand to a position on the right breast near the armpit with the palm toward the body and move the shoulder upward as it would be if there were support beneath it. Note the absence of stress at the "fracture" site.

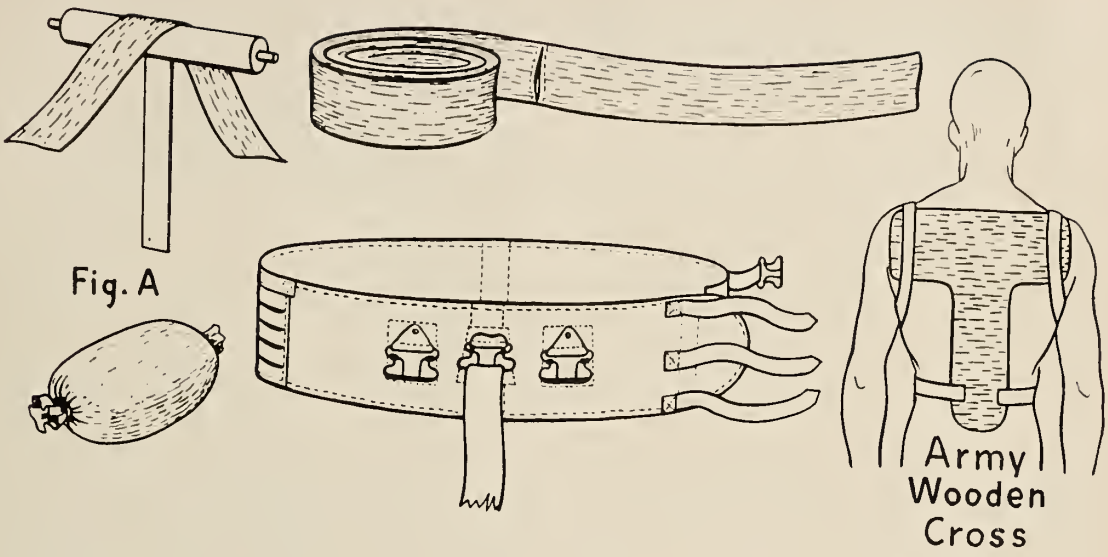


Fig. A

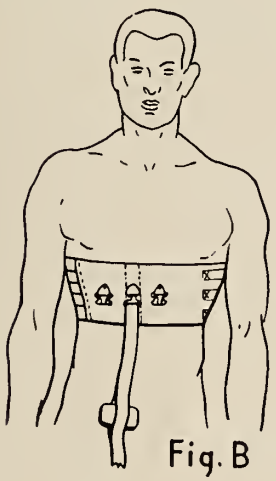


Fig. B

Fig. C

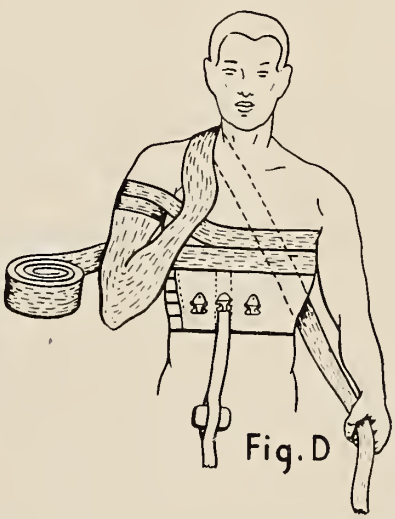


Fig. D

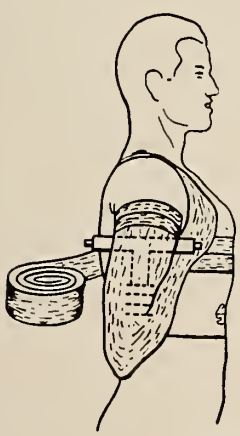


Fig. E

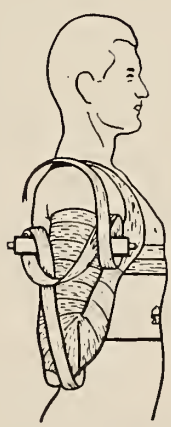


Fig. F

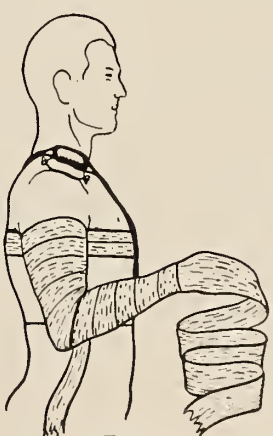


Fig. G

CASE REPORTS

- Dissecting Aortic Aneurysm with Bizarre Neurologic and Vascular Aspects
- Epidermoid Cysts of the Testis
- Solitary Cyst of the Adrenal Gland
- Massive Hematemesis from a Cirsoid Aneurysm in a Forty-Year-Old Man
- Lipoid Nephrosis During and After Pregnancy
- Anserina Bursitis

Dissecting Aortic Aneurysm with Bizarre Neurologic and Vascular Aspects

SEYMOUR M. PERRY, M.D., and JOHN W. CONLEY, M.D.,

Los Angeles

THE clinical manifestations of dissecting aneurysm of the aorta may vary greatly in symptomatology and objective findings but it is the neurological complications which are often bizarre and difficult to interpret. They usually may be classified[3] as due to ischemic changes of the brain, of the spinal cord, or of the peripheral nerves.

The reported incidence of neurological complications in dissecting aortic aneurysm varies with different series — between 11 per cent and 46 per cent.[1] Scott and Sancetta,[2] in reviewing the largest series (424 cases) noted that in 89 cases, or 21 per cent, there were neurological complications such as pain, paresthesias, convulsions, periods of unconsciousness, vertigo, reflex changes, and facial weakness. Paraplegia owing to involvement of the spinal cord or peripheral nerves is common. Hemiplegia is usually attributable to extension of the dissection along the carotid arteries, with a resultant cerebrovascular accident.

In the following case the patient had simultaneous flaccid monoplegia, anesthesia, and vascular embarrassment of the same extremity.

CASE REPORT

A 49-year-old Caucasian male entered Los Angeles County Hospital in emergency on Oct. 12, 1950. Although apparently in shock the patient gave the following history: He had been drinking heavily for the past ten days and admitted being a chronic alcoholic for a period of years. At 8 a.m. on the day of admission there was sudden onset of severe epigastric pain just beneath the tip of the xiphoid process. Shortly afterward the patient noticed numbness of both lower extremities, more on the left than the right, and the left leg became extremely weak. Sensation in the right leg improved, but the numbness in the left became progressively more severe and extensive, until the entire limb was involved.

Upon physical examination the patient was observed to be well developed, well nourished, sweating and slightly cyanotic. He was apprehensive but cooperative. The eyes, ears, nose, and throat appeared to be normal. There was no venous distention in the neck. Except for a few basal rales the chest was clear to auscultation and percussion. No abnormality was noted in auscultation and percussion of the heart. The abdomen was slightly tense and there was questionable dullness in the flanks, but the organs were normal to palpation and no masses were felt and there was no tenderness. Peristalsis was active and of normal pitch. Pronounced erythematous, cyanotic discoloration was present over the entire left lower quadrant of the abdomen. This mottling continued posteriorly to involve the buttock and inferiorly over the whole of the left lower limb. Blood pressure readings, recorded in millimeters of mercury, were as follows: right arm, 122 systolic and 62 diastolic; left arm, 144 systolic and 66 diastolic; right leg, 174 systolic and 88 diastolic. The blood pressure was unobtainable in the left lower limb. The arterial pulsations of the right lower extremity were diminished, and were absent in the left. The left thigh and leg were warmer than the right, despite the absence of pulsations and the discoloration. In addition, there was flaccid paralysis of the entire extremity. The left lower abdominal reflex was diminished and deep tendon and superficial reflexes of the affected limb were absent.

In fluoroscopic examination of the chest a widened aorta and a minor degree of cardiac enlargement were observed. An electrocardiogram was not abnormal. The spinal fluid was clear and colorless, and normal dynamically. Reaction to a Pandy test was negative. There were 30 lymphocytes per cu. mm. of fluid. The hemoglobin content of the blood was 15.5 per 100 cc. Leukocytes numbered 14,000, 80 per cent polymorphonuclear cells. The blood amylase was normal.

Oxygen, sedation, and infusions of whole blood were given but the condition of the patient remained unchanged and 13 hours after admission he suddenly became cyanotic and acutely dyspneic. The veins in the neck became distended, the patient sat upright in bed, mumbled a few words, and fell back dead.

AUTOPSY

Anatomic diagnoses: Dissecting aneurysm of the aorta, with rupture into the pericardium; cardiac tamponade, due to hemopericardium; cardiac hypertrophy; pulmonary edema; fatty liver; bicuspid aortic valve; esophageal diverticulum.

From the Department of Internal Medicine, University of Southern California School of Medicine, Los Angeles County Hospital.

Figure 1.—Dissected heart and aorta with tear just distal to aortic valves.

Cardiovascular system: The pericardial sac was smooth and glistening, containing a large amount of dark blood. As it was opened the blood spilled, so that no measure was obtained. The heart weighed 540 gm. The chambers did not appear dilated. Except for a bicuspid aortic valve, the valves appeared normal. A transverse tear, involving all but 1 cm. of the aorta, was present 2 cm. distal to the aortic valve (Figure 1). In the serosa and enclosing this tear was a large hematoma. The tear had dissected in the media of the artery the entire length of the aorta. On the right side this dissection extended 1 cm. distally in the iliac artery. On the left side, however, the dissection ended 1 cm. above the left iliac artery. The latter vessel appeared normal. The dissection also involved 1 to 2 cm. of each of the great vessels of the neck, including the innominate, the left common carotid, and the left subclavian arteries. The arch of the aorta was buried in a large mass of dark clotted blood which apparently had come from the dissection in the main pulmonary arteries, without rupture into their lumina. The myocardium on cut surface was coarser than is normal, but there were no areas of new or old infarction or scarring. The left ventricular wall was 17 mm. thick and the right 3 mm.

Brain and central nervous system: There were no gross lesions in the brain and spinal cord or in the left lumbosacral plexus.

No significant lesions were noted in the respiratory, digestive or genito-urinary systems or in the spleen.

Microscopic: The medium of the aorta was split by gross hemorrhage and there were scattered collections of polymorphonuclear cells in the adventitia. No significant lesion was noted in the myocardium, except for moderate hypertrophy of the muscle fibers. The lungs were congested, the alveoli being partially filled with edematous fluid. There were scattered pigment-filled macrophages. The spleen and kidneys were mildly congested. There was moderate fatty vacuolization of the liver parenchymal cells, as well as pronounced congestion of the central vein and atrophy of the surrounding cells. The vessels in the interstitial spaces of the pancreas were engorged.

DISCUSSION

This case was considered to be of interest for several reasons. Neurovascular alterations were observed only in the left lower extremity, despite the dissection of the aneurysm the length of the aorta and along the major vessels of the upper extremities. Of equal interest was the sparing of the abdominal viscera and spinal cord. The monoplegia and anesthesia are best explained on the basis of ischemia of the left lumbosacral plexus, but pain was not present in the limb, probably because the blood supply was so seriously impaired as to interrupt transmission of any sensory impulses. At autopsy the plexus was dissected and no gross lesions were observed. Why the major findings appeared at such a distance from the origin of the aneurysmal dissection is perplexing and difficult to account for on the basis of pathological findings.

SUMMARY

A case of dissecting aortic aneurysm with several bizarre neurovascular findings appearing concurrently in the same extremity is presented.

REFERENCES

1. Moersch, F. P., Sayre, G. P.: Neurologic manifestations associated with dissecting aneurysm of the aorta, J.A.M.A., 144:1141-1148, Dec. 2, 1950.

2. Scott, R. W., Sancetta, S. M.: Dissecting aneurysm of aorta with hemorrhagic infarction of the spinal cord and complete paraplegia, Am. Heart J., 38:747-756, Nov. 1949.

3. Weisman, A. D., Adams, R. D.: Neurological complications of dissecting aneurysm, Brain, 67:69-92, June 1942.

Epidermoid Cysts of the Testis

A Report of Three Cases

KENNETH E. MOOSLIN, M.D., and JOHN W. SCHULTE, M.D.,
San Francisco

THREE cases of testicular tumor containing epidermoid cysts are herein reported. In two of them the lesion was a pure epidermoid cyst—sometimes called unidermal dermoid cyst.[1, 2] Only three such cases have been reported previously. In the third case the lesion was a teratoma containing an epidermoid cyst, but it also was unusual in that the patient was a seven-month-old infant.

CASE REPORTS

CASE 1. A 55-year-old painter entered the urologic service of the Veterans Administration Hospital, San Francisco, Aug. 1, 1949, with complaint of a swollen left testicle. The patient first had difficulty with the left testicle 28 years previously when tenderness and swelling in that location for approximately one month were noted. In the two years preceding admission to hospital the left testicle had enlarged gradually but without pain except for a mild ache after heavy lifting. Five days before entry, aspiration of a presumed hydrocele was attempted but was unsuccessful and operative treatment was advised.

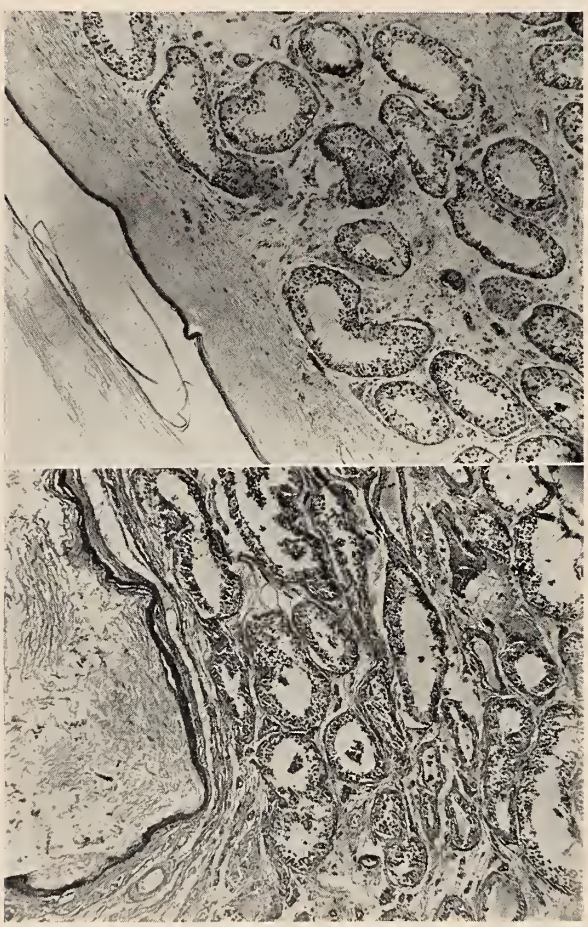
From the Division of Surgery, Subdivision of Urology, of the University of California School of Medicine and the Veterans Administration Hospital, San Francisco.

A cystic mass about 7 cm. x 4 cm. was palpated in the left scrotal sac. The mass was translucent and a shadow of the testicle was observed postero-inferiorly. Left hydrocele was diagnosed preoperatively. Results of blood and urine examinations were normal, and no abnormality was observed in x-ray films of the chest.

With the patient under spinal anesthesia, a longitudinal incision was made on the left side of the scrotum, starting at the inferior aspect. The tunica vaginalis was exposed and incised. It contained approximately 30 ml. of dark yellow clear fluid. In further exploration the left testis was noted to be enlarged and cystic with only a small hydrocele sac around it. A rubber-shod Allis clamp was placed around the spermatic cord and an incision made into the testis. There was an external rim of what appeared to be normal testicular tissue. Upon deeper incision into the testis, there was a copious outpouring of white sebaceous material. The impression was that it was from a benign tumor of the testis, probably an epidermoid cyst. Orchiectomy was then carried out, with care taken to keep the testis and the drainage from it isolated from the rest of the wound. The spermatic cord distal to the external inguinal ring was excised and the wound closed.

Pathologic report: The center of the testis was replaced by a 4 cm. x 5 cm. cystic structure containing white grumous material. The wall of the cyst was about 3 mm. in thickness and was surrounded by testicular tissue. In microscopic examination the cyst wall was observed to be made up of a lining of stratified squamous epithelium with a heavy keratin layer, much of which was desquamated into the lumen. This epithelium was generally thin, 2 to 3 cells in depth, and regular without the development of rete pegs. The wall itself was made up of moderately dense connective tissue. Deep to the cyst wall normal testicular tissue was present. Diagnosis: Epidermoid cyst of the testis.

The postoperative course was uneventful and the patient was discharged on the seventh postoperative day.



Figures 1 (above) and 2 (below)—Cases 1 and 2, respectively. Epidermoid cyst of the testis. In each, the cyst is filled with keratinized debris; is lined by stratified squamous epithelium, and the cyst wall is made up of dense connective tissue. The adjacent testicular tissue is well preserved and is lined by normal spermatogenic epithelium.

Case 2: A 21-year-old medical student entered the urologic service at the University of California Medical Center April 6, 1948, with complaint of gradual enlargement of the left testicle. A painless lump of the left testis was first noted by the patient on April 3, 1948. There had been no previous symptoms referable to the left testicle except for an episode of pain lasting several hours which occurred while the patient was on a pack trip the previous year. The pain subsided without treatment and was not accompanied by swelling or other manifestations of disease. The only pertinent past history was successful plastic repair of first degree hypospadias nine years previously.

A hard, painless, heavy mass 1 or 2 cm. in diameter was palpated within the testicle. Results of routine blood and urine examinations were within normal limits. The gonadotropin content of the urine was normal.

On April 7, left orchiectomy was done. A hard, whitish-yellow tumor occupied the central portion of the testis. The tunica vaginalis was not involved and there were no nodes along the cord. In cross-section the hard, circumscribed mass had a laminated, onion-like appearance.

Pathologic report: The tumor was composed of layers of keratin and necrotic squamous cells; only the outlines could be seen. The wall of the tumor consisted of flattened squamous cells from which fresh keratin was being desquamated. The seminiferous tubules and interstitial tissue were not unusual. Diagnosis: Epidermoid cyst of the testis.

Case 3: A 7½-month-old infant was admitted to the urologic service of Franklin Hospital July 23, 1943. About two months prior to entry the parents noticed that the infant's right testicle was larger than the left and it enlarged further until it was about five times the original size. The baby paid no attention to it until just prior to admission, when he began reaching for the scrotum as though in pain. The baby had had a normal birth and was normal in growth and development.

The penis and the scrotal contents on the left were normal in appearance and to palpation. A mass distended the right side of the scrotum. The right testis could not be palpated and it was thought to be inside the mass. The preoperative diagnosis was right hydrocele.

A 5 to 6 cm. incision was made parallel to the inguinal canal and into the base of the scrotum. The tunica vaginalis and contents were found to be irregular in shape and hard. Upon incision of the tunica vaginalis a small amount of fluid was noted and there was a large cystic mass in place of the testis. The epididymis, which was normal in appearance, was attached at the upper pole. The mass was clinically diagnosed as a tumor of embryonal type and the testis was excised at its junction with the epididymis, which was left for prosthetic purposes.

Pathologic report: The specimen consisted of an irregular piece of tissue measuring 4.5 cm. x 3 cm. There was one large cavity formed by a fibrous tissue wall, lined with yellow debris. Throughout the rest of the mass were numerous little cysts lined with mesothelium. Along the wall of one

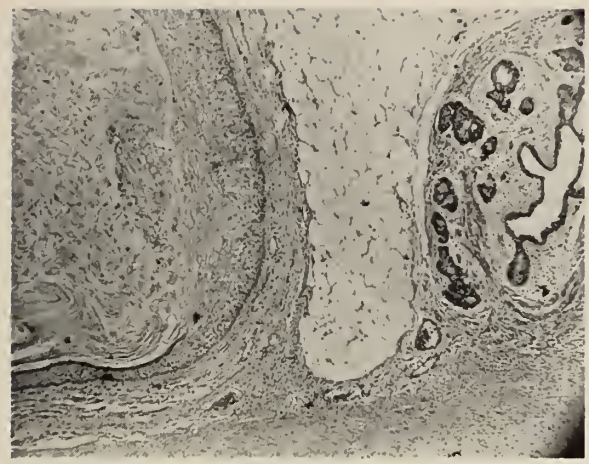


Figure 3.—Teratoma of the testis. In one area is an epidermoid cyst containing desquamated epithelial cells and keratinized debris. Present also in this section is a group of primitive glandular structures.

of these cysts was a piece of very hard material resembling bone. No hair or gross collection of sebaceous material was observed. In microscopic examination, tissue from all three embryological layers was observed. There were two cystic spaces lined by stratified squamous epithelium and filled with keratinized epithelium of the same type, a small island of acini and ducts resembling a lobule of breast tissue, and small pieces of cartilage, one of which lay just outside a tubular structure lined by respiratory epithelium and containing, in its wall, mucous glands. Two small pieces of bone were present. One cystic space was lined by tall columnar epithelium in which there were goblet cells. This, together with the lamina propria, resembled tissue from the intestinal tract. Diagnosis: Teratoma of the testis.

Postoperatively the patient did well and was discharged on the fourth postoperative day. No x-ray therapy was given and, to date, there has been no recurrence.

REFERENCES

1. Dockerty, M. B., and Priestley, J. T.: Dermoid cysts of the testis, J. Urol., 48:392-400, Oct. 1942.

2. Gage, A. A., and Brodie, E. L.: Epidermoid cyst of the testis, J. Urol., 63:539-541, March 1950.

Solitary Cyst of the Adrenal Gland

Report of a Case

O. Dale Lloyd, M.D., *Beverly Hills*, and
Lynn Solomon, M.D., *Los Angeles*

SOLITARY cyst of the adrenal gland is a rare disease. In a survey of the literature since 1907 reports of only five cases falling into this category were found.

M'Cosh,[7] in 1907, reported the case of a 45-year-old female in whom a mass could be palpated high in the left hypochondrium. At operation nine liters of greenish-yellow fluid was aspirated and the cyst was removed. Microscopically, the cyst wall was found to contain adrenal tissue.

Doran,[3] in 1908, described in the left adrenal gland a cyst four inches in diameter, containing blood-tinged fluid. The presence of blood was attributed to secondary hemorrhage from the cyst wall.

Hartwell,[4] in 1909, wrote of the surgical removal of a congenital cyst of the left adrenal gland the size of an "adult head." In this case also the fluid was blood-tinged and considered to be the result of secondary hemorrhage.

Ballance,[1] in 1923, reported observing a right adrenal cyst 9 x 6 inches in size during the course of gastroenterostomy. The cyst was removed at a secondary operation and was found to contain amber fluid.

Levison,[5] in 1933, reported a case in which bilateral upper abdominal masses were noted on x-ray examination. The mass on the left was the size of a "grapefruit" and that on the right the size of a "mandarin." At operation, these proved to be bilateral, solitary adrenal cysts, the larger of which was removed. This is the first recorded case in which x-ray examination suggested the diagnosis of this condition preoperatively.

REPORT OF A CASE

A white, married, 68-year-old businessman entered The California Hospital, Los Angeles, on April 3, 1949, for operation. During the course of a general medical checkup by an internist in August 1948, an x-ray film of the abdomen showed a small calcification in the region of the left kidney. In retrograde pyelograms (Figure 1) a circumscribed mass, about 10 x 15 cm., lying immediately below the left leaf of the diaphragm in a posterior position, was noted. It displaced the left kidney downward about 7 cm. The small area of calcification appeared to be in the region of the mass. Except for the pronounced displacement, the left kidney was normal. The mass and the kidney seemed to be quite separate (Arrow, Figure 1). Complete gastrointestinal x-ray studies were carried out. There was a constant filling defect in the stomach caused by an extrinsic mass, and the splenic flexure was displaced anteriorly. Eight months later, in March 1949, x-ray studies were repeated at the Scripps Metabolic Clinic, La Jolla, California, and no change in the size of the mass was noted.

On hospital entry, the patient complained of constant, low-grade, epigastric pain and flatulence for the preceding two years. The family history was non-contributory. The patient had had malaria in childhood, and in 1945 was treated for undulant fever. The surgical history included appendectomy in 1929, a "Young punch operation" in 1936, removal of a pharyngoesophageal diverticulum in 1937, and a transurethral prostatic resection in 1948.

The blood pressure varied from 122 mm. of mercury systolic and 80 mm. diastolic to 158 mm. and 90 mm. respectively. The blood cell count was normal, as were the erythrocyte sedimentation rate, the serum cholesterol content and the result of a phenolsulfonphthalein test. No abnormality was noted in an electrocardiogram. The urine was normal. Results of Kahn and Mazzini tests were negative for syphilis. The basal metabolic rate was minus 16.

A preoperative diagnosis of left subphrenic, retroperitoneal mass, either an adrenal tumor or a dermoid cyst, was made. A long, transverse incision was made in the left flank, dividing the left rectus muscle and providing a combined intraperitoneal and extraperitoneal approach. The spleen and splenic flexure of the colon were observed to be displaced anteriorly and the left kidney downward. A fairly thin-walled cyst 10 cm. in diameter was noted to arise from the superior half of the left adrenal gland, the adrenal cortex extending into the cyst wall where it gradually disappeared. A 1-cm. area of calcification was located in the anterior wall of the cyst near the adrenal attachment. Several spicules of calcium were noted elsewhere in the wall. The cyst with approximately half the adrenal gland was removed by applying counter pressure on it from within the abdomen while carrying out the dissection through the extraperitoneal

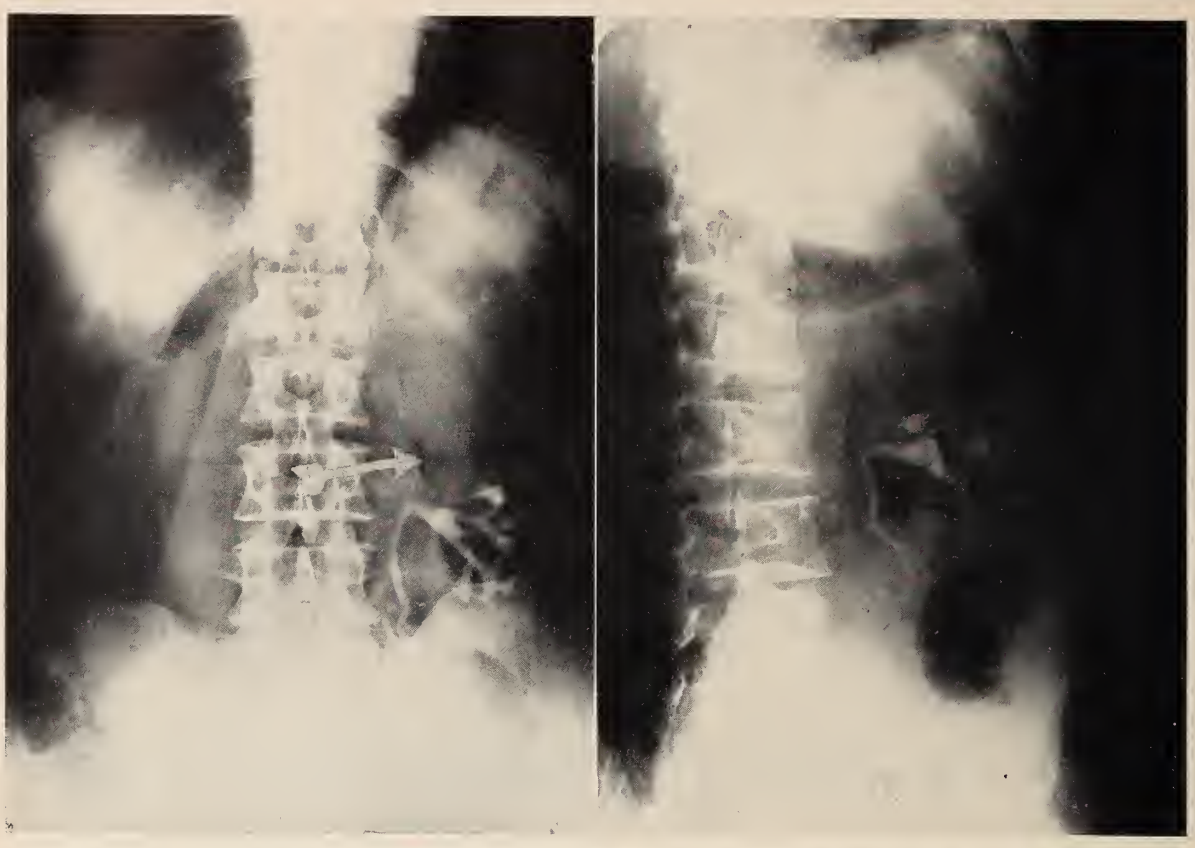


Figure 1.—*Left*—Anterior-posterior left retrograde pyelogram. Arrow indicates cleavage plane between kidney and cyst. Notice area of calcification above 12th rib. *Right*—Lateral view of left retrograde pyelogram.

portion of the incision. Perforation occurred near the end of the procedure and clear gelatinous fluid was aspirated.

The pathologist considered the specimen to be a benign cyst of the adrenal gland. Fluid smears and guinea pig inoculations were negative for tuberculosis.

The postoperative course was uneventful except for moderate radiculitis of the tenth intercostal nerve. The patient was discharged on the 16th postoperative day.

Nine months after the operation the patient stated he had "never felt so well" and the flatulence and epigastric distress had almost disappeared. The blood pressure was 140 mm. of mercury systolic and 80 mm. diastolic.

DISCUSSION

The kind of cyst reported in the present case is not to be confused with multilocular adrenal cysts of lymphangiomatous origin,[9] cysts resulting from organization and liquefaction of clot following extensive primary hemorrhage into the adrenal gland,[6] or cysts due to degeneration of benign and malignant tumors of the adrenal gland.[2] Although several such cases have been recorded, they are not common.[8]

The cortical portion of the adrenal gland, of mesothelial origin, arises very near the germinal epithelium and mesonephros. With the descent of the gonads, portions of this cortical tissue may be pulled into positions as distant as the scrotum and broad ligament. So it is not difficult to postulate the association of adrenocortical tissue with tumors of varied origins in any of these distant locations. It is the opinion of some investigators that cysts in the retroperitoneal area associated with the adrenocortical elements may be derived either from mesonephric remnants or from the adrenal tissue itself. To determine definitely the origin of a particular cyst in this area may be a most difficult problem.

SYMPTOMS

Solitary adrenal cysts may grow to large size before giving rise to any symptoms. The patient may complain of a sense of fullness or of mild dyspepsia. Should a secondary hemorrhage occur into the cyst, it would enlarge rapidly and pain would then become a major symptom.

DIAGNOSIS

Adrenal cysts must be differentiated from other masses occurring in similar locations, including solid adrenal tumors, renal cysts or tumors, dermoid cysts, echinococcal cysts, hydatid cyst of the left lobe of the liver, pancreatic cysts, lipomata, and retroperitoneal lipomyxosarcomata.

The high position of the mass makes palpation of it virtually impossible. Downward displacement of the kidney as observed by pyelography will tend to rule out renal tumors, especially if tumor and kidney are demonstrably separate (Figure 1). It would be extremely unusual for a pancreatic cyst to present laterally and high under the diaphragm and to displace the kidney downward, either on the right or left side. Nor do cysts of the spleen and liver displace the kidney downward. Also, in the presence of such lesions, the lateral x-ray film will disclose an adrenal mass to be in the same plane as the kidney, indicating a retroperitoneal lesion. If the lesion is an echinococcal cyst, there may be x-ray evidence of calcification in the wall, and the reaction to skin tests may be positive for the organism. Solid adrenal tumors may manifest themselves clinically by changes in sexual characteristics or by episodes of hypertension (pheochromocytoma). Inasmuch as a lipoma or dermoid cyst cannot be excluded, these lesions should be borne in mind as possibilities at operation.

SUMMARY

A case of solitary cyst of the left adrenal gland is reported and five similar cases recorded in the literature are briefly described. The differential diagnosis is discussed. In the case reported, removal of the tumor was greatly facilitated by a long transverse incision and a combined intraperitoneal and extraperitoneal approach.

405 North Bedford Drive.

ADDENDUM

A case similar to the one here reported was reported by M. X. Anderson and co-workers in Radiology, 54:236-241, Feb. 1950.

REFERENCES

1. Ballance, H. A.: Cyst of the right suprarenal capsule removed by operation, Brit. Med. J., 1:926-928, June 2, 1923.

2. Barker, L. F.: Cystic tumor of the medulla of the suprarenal gland, Med. Clin. N. Am., 14:265-268, July 1930.

3. Doran, A. H. G.: Cystic tumor of the suprarenal body successfully removed by operation, Brit. Med. J., 1:1558-1563, June 27, 1908.

4. Hartwell, J. A.: Cyst of the suprarenal gland, Ann. Surg., 49:125-129, Jan. 1909.

5. Levison, P. H.: A case of bilateral adrenal cysts, Endocrinology, 17:372-376, July-Aug. 1933.

6. Major, R. H., and Black, D. R.: A huge hemangioma of the liver associated with hemangiomata of the skull and bilateral cystic adrenals, Am. J. Med. Sc., 156:469-483, Oct. 1918.

7. M'Cosh, A. J.: Cysts of the suprarenal gland, Ann. Surg., 45:878-889, June 1907.

8. Pearse, H. E.: Cyst of adrenals: Report of a case, West. Surg. Assn. Trans., pp. 329-336, 1916.

9. Rabson, S. M., and Zimmerman, E. F. Z.: Cystic lymphangiectasia of the adrenal, Arch. Path., 26:869-872, Oct. 1938.

Massive Hematemesis from a Cirsoid Aneurysm in a Forty-Year-Old Man

Report of a Fatal Case

ROBERT E. BUCK, M.D., *San Luis Obispo*

CIRSOID aneurysm of one of the branches of the gastric arteries is rare, and may be either arteriosclerotic or congenital. Recently, Donaldson and Hamlin[1] reported three cases and reviewed the literature on abdominal aneurysms. The three patients were men over 55 years of age, and in each case the aneurysm was of the cirsoid arteriosclerotic type. Two of the patients were operated upon; one survived. The others died of intraluminal gastric bleeding of massive degree.

The principal points of interest in the case reported here are that the patient was relatively young and there was no arteriosclerosis. Presumably the aneurysm was congenital. In repeated roentgenologic examination of the stomach and an exploratory operation the cause of bleeding was not determined.

CASE REPORT

A 40-year-old business man was brought to the emergency ward of the hospital by relatives, because of painless vomiting of blood for six hours. The first bout of massive hematemesis had occurred six years previously, and the patient was said to have responded to conservative measures and transfusions. In a follow-up roentgen study of the gastrointestinal tract, it was reported, no abnormality was observed. The patient then remained well until, five months before the present episode, massive hematemesis again occurred. The patient was reported to have responded well to transfusions of blood. In two roentgen studies of the upper gastrointestinal tract at that time, no evidence of lesion was observed. The free hydrochloric acid value of the stomach contents was 30 degrees and the value for total acid was 50 degrees. Result of a Kahn test was negative for syphilis. Three months before the patient was admitted to this hospital, an exploratory operation was done in another city but no abnormality was observed. The patient then again felt well. Results of liver function tests (bromsulfalein, cephalin flocculation, thymol turbidity and prothrombin time) which were carried out in still another city two weeks before admission, were normal. The patient said that he did not have dyspepsia and did not ingest alcohol. Upon physical examination at the time of admission the patient was noted to be well-nourished, appearing to be about the stated age, but with ashen pallor. The skin was cold and clammy. The sensorium was clear. The pulse could not be palpated and the blood pressure was not obtainable. Respirations were 20 per minute, and the oral temperature was 96° F. No abnormality was noted in gentle palpation of the abdomen.

As the patient was obviously in shock from severe hemorrhage, no laboratory work was done. Plasma was infused immediately, and 15.0 mg. of morphine and 0.9 mg. of atropine were given. Oxygen was given continuously and whole blood transfusion was started one hour later. At intervals of one to two hours thereafter the patient vomited massive quantities of bright red blood (four times), each emesis overfilling a wash basin. The patient did not recover from shock and death occurred nine hours after admission. During the nine-hour period 4,500 cc. of whole blood, 1,000 cc. of plasma, and 1,000 cc. of 5 per cent glucose in saline were given.

At autopsy the stomach and entire small bowel were observed to be enormously distended with blood. Except for pallor, all organs were normal in appearance save for the lesion described below.

PATHOLOGIC REPORT

The esophagus was negative for evidence of ulcer or varices. The stomach was large and atonic and the mucous membrane atrophic. About 5 cm. from the esophageal hiatus on the posterior wall near the greater curvature side there was a 4 mm. ulcerated lesion, the margins of which were elevated 2 to 3 mm. Slight hemorrhagic discoloration was noted in the lesion and there was a gaping defect through the mucous membrane about 4 mm. in depth. This segment

Figure 1. — Low-power photomicrograph showing the dilated, tortuous submucosal artery with the area of erosion and rupture.

Figure 2.—Gross specimen showing the elevated 4 mm. defect in the gastric mucosa.

of the stomach wall was cut out and blocked for serial section. In cross-sections through the wall an underlying vessel about 4 mm. in diameter and lying very close to the margin of the ulcer was noted. No evidence of lesion was observed in macroscopic examination of the pylorus, duodenum and pancreas.

In microscopic examination of sections of the gastric lesion a small area of peptic erosion of the mucosa was observed. There was a dilated and tortuous artery in the submucosa of this region, and one loop of the vessel was prolapsed through the eroded zone, filling the mucosal defect. Weakened by peptic digestion, the wall of the artery was distended and ruptured. The cross-sectional contour of the vessel was that of a funnel with the wide mouth pointed toward the gastric lumen. There was practically no inflammation of the stomach wall beyond the small zone of acute erosion. No significant lesions were observed in sections of the other organs.

COMMENT

Other causes of massive hematemesis such as peptic ulcer, esophageal varices, gastritis, and carcinoma, have been adequately covered elsewhere.[5] During the final episode in this case, the results of studies previously carried out were not available. The presumptive diagnosis was bleeding esophageal varices.

Discussion of therapy is beyond the scope of this report. However, it might be pointed out that had blind subtotal resection, as advocated by some investigators,[2,4] been carried out in this case, the lesion might still have been missed. Total gastrectomy done between bleeding episodes would have been necessary, unless reduction of acid secretion alone would have prevented rupture.

Jankelson and Milner[3] recently reported a follow-up study on 27 patients who had massive gastrointestinal bleeding of unknown origin. A correct clinical diagnosis was eventually made in nine cases, and in two others the source of bleeding was observed in exploratory operation. In 16 cases the cause of the hemorrhages was never discovered—in three cases despite a total of six exploratory laparotomies.

SUMMARY

A case of massive hematemesis in a 40-year-old man who was observed during the third (and lethal) hemorrhage in six years is reported. At autopsy, peptic erosion of a nonarteriosclerotic cirsoid aneurysm of the stomach was observed microscopically.

990 Pacific Avenue.

ACKNOWLEDGMENT

The author is indebted to Dr. John W. Budd for advice on the photomicrograph, and to Dr. A. M. Wolfe for the photograph of the gross specimen.

REFERENCES

1. Donaldson, G. A., Hamlin, E.: Massive hematemesis resulting from rupture of a gastric artery aneurysm, New Eng. Jour. Med., 243:369, 1950.

2. Ives, L. A.: Some problems of emergency gastrectomy for hematemesis, Lancet, 2:644, 1949.

3. Jankelson, I. R., Milner, L. R.: Massive upper digestive tract hemorrhage of undetermined origin, J.A.M.A., 145:17, 1951.

4. Stewart, J. D., Schaer, S. M., Potter, W. H., and Massover, A. J.: Management of massively bleeding peptic ulcer, Ann. Surg., 128:791, 1948.

5. Welch, C. E.: Treatment of acute, massive gastroduodenal hemorrhage, J.A.M.A., 141:1113-1118, 1949.

Lipoid Nephrosis During and After Pregnancy

Thomas C. McCleave, Jr., M.D., *Oakland*

LIPOID nephrosis is a rare complication of pregnancy. The following case history suggests such a diagnosis:

REPORT OF A CASE

A housewife, 26 years of age, was admitted to the medical service of Stanford University Hospital on May 28, 1947, with generalized edema of approximately three weeks' duration. She was six months pregnant. There was no history of preceding infection or illness and none of previous medication. The patient had had three earlier normal pregnancies, and her past health had been excellent.

Upon physical examination, pronounced generalized edema of the face, abdominal wall and extremities was noted. Both pleural cavities contained fluid, and ascites was present. The temperature and the pulse rate were normal. The systolic blood pressure was 110 mm. of mercury and the diastolic pressure 70 mm. Hemoglobin content of the blood was 11 gm. per 100 cc., plasma proteins 5.1 gm. per 100 cc. of blood, and the cholesterol level 1,000 mg. per 100 cc. of blood. The blood sedimentation rate was accelerated. The most significant observations in repeated examinations of the urine are summarized in Table 1. Urinary sediment was normal throughout the period of observation.

The patient was placed on a diet containing 2,500 calories and less than 3 gm. of sodium chloride. The protein content of the diet was 70 gm. From June 5 through June 16 infusions of 50 gm. of albumin, given in 200 cc. of water, with an added 200 cc. of 5 per cent glucose in water, were given daily.* This infusion was given over a period of three

*The albumin was furnished by the American Red Cross.

hours and there were no reactions. Diuresis was prompt; there was a decline in body weight from 69 to 57 kilograms and the edema cleared.

The patient was discharged and during the following month was given albumin at four- to five-day intervals, but there was a gradual increase in edema and in body weight and she was readmitted to the hospital on July 29, at term, with pronounced edema and body weight of 69 kilograms. A normal child was delivered July 30. There was no recession of the edema, and between Aug. 6 and Aug. 20, the date of discharge from the hospital, the patient received daily infusions of albumin, with excellent diuresis again resulting and a drop in body weight from 65 to 54 kilograms.

TABLE 1.—*Twenty-four Hour Urine Excretion Study*†

Date	24 Hr. Urine Volume (cc.)	Specific Gravity	Protein, gm. per 24 hr.	Chlorides (NaCl), gm. per 24 hr.
May 30	1,565	1.020	8.8	9.08
June 5	684	1.010	6.0	0.96
June 9	3,480	1.010	27.3	14.62
June 13	2,800	1.010	35.2	5.88
June 17	2,350	1.011	30.4	5.88
June 20	1,780	1.015	18.4	1.34
June 24	3,490	1.012	42.8	1.57
Aug. 7	4,000	1.011	43.8	15.5
Aug. 10	3,560	1.010	51.1	16.4
Aug. 17	3,700	1.012	40.0	0.54

†Dr. David Rytand of the department of medicine of the Stanford University School of Medicine supplied the data.

On Oct. 1, 1947, the patient was admitted to Providence Hospital, Oakland. Anasarca was again present and the body weight was 65 kilograms. There were no symptoms other than mild dyspnea, attributed to mild bilateral pleural effusion, and moderate ascites. The temperature was 37°C., the pulse rate 72, the systolic blood pressure 114 mm. of mercury and the diastolic pressure 76 mm.

The hemoglobin content of the blood was 10.6 gm. per 100 cc. Leukocytes numbered 9,500 and the cell differential was within normal limits. The specific gravity of the urine was 1.020, the reaction alkaline. The albumin content was 0.62 per cent by weight. Sugar was absent. In examination of the urinary sediment a few granular casts, erythrocytes and leukocytes were observed. The blood sedimentation rate was 18 mm. in nine minutes (Linzenmeier). The plasma protein content was 4.6 gm. per 100 cc. and the urea nitrogen content of the blood was 35 mg. per 100 cc.

The patient was placed on a diet low in sodium, containing 2,000 calories and 100 grams of protein, and was given ammonium chloride, 2 gm. by mouth three times daily. No attempt was made to restrict fluid intake. On October 3, 4, 6, and 7 the patient received 2 cc. of Mercuhydrin® by intramuscular injection. Diuresis was prompt, with a body weight decreasing 13 kilograms in five days. The patient was discharged from the hospital October 8, and from then until June 1950, when she moved to another city, she was observed at frequent intervals. During this period the low sodium diet was fairly well followed. Ammonium chloride and Mercuhydrin at weekly or bi-weekly intervals were required to control edema which tended to recur periodically. Iron, vitamin B complex, and desiccated thyroid were given by mouth.

In June 1948 the urine was found to be negative for albumin, and the blood sedimentation rate and the hemoglobin content had returned to normal limits. The patient was returned to a diet containing a liberal amount of salt and got along well for about five months. Then, following an infection of the upper respiratory tract, symptoms typical of nephrosis again developed. A prescribed diet, acidification, and mercurial diuretics were again started, with a less rapid but gradual improvement. One year later a similar episode occurred following a gastrointestinal disturbance. Protein hydrolysates were added to the diet and this time Mercuhydrin injections were increased to 4 cc. bi-weekly before satisfactory diuresis occurred. This larger dosage was continued for several weeks without evidence of toxicity. Improvement again followed. No treatment was given after December 1949, and when last observed on Feb. 2, 1951, the patient felt and looked well. The hemoglobin content of the blood was 12 gm. per 100 cc. and the serum protein level was 6.85 gm. per 100 cc. of blood. There was no albumin in the urine and the sediment was normal.

COMMENT

The patient was initially considered to have toxemia of pregnancy, and it was thought that the symptoms of nephrosis would clear following termination of pregnancy. This did not occur. Infusion of albumin was followed in each instance by satisfactory diuresis, but little if any influence on the level of serum proteins was noted. Albumin recovered in the urine in any given period corresponded roughly to that administered. Salt depletion, as measured by sodium chloride excretion in the urine, corresponded in general to water loss, and tended to be reduced as edema disappeared. Diuresis and reduction of edema were as well accomplished by the administration of acidifying substances and mercurial diuretics as by the administration of albumin. No toxic reactions were noted.

230 Grand Avenue.

Anserina Bursitis

Report of a Case

R. S. KNEESHAW, M.D., and C. A. SHORT, JR., M.D., *San Jose*

ANSERINA bursitis is an uncommon entity in medical literature. Le Fort and Albert reported five cases, Le Bourge three, and Zodek one. Moschcowitz mentioned reports of 20 to 25 cases. Meyerding and Chapman have reported 14 cases from the Mayo Clinic. Because of the rarity of the disease, it is not often that an accurate preoperative diagnosis is made. The usual diagnosis is soft tissue tumor or cystic mass on the medial aspect of the knee. Oftentimes the mass is considered to be a malignant tumor because it may rapidly increase in size.

The anserina bursa is located on the inner aspect of the knee between the lower portion of the tibial collateral ligament and the tendons and insertions of the sartorius, gracilis and semitendinous muscles (Figure 1). These tendons insert by means of a fan-shaped aponeurosis (pes anserina) on the proximal portion of the medial surface of the tibia, and beneath this aponeurosis lies the anserina bursa, which is 3 to 6 cm. in length and 4 cm. in width.

The typical patient with anserina bursitis is a middle-aged male laborer with complaint of a swelling or tumor which has been increasing in size and is located on the medial aspect of the knee. Associated with this swelling is aching or burning pain which is made worse by motion.

On examination, a mass firmly attached to the lower medial side of the knee will be observed. It may feel quite solid when the knee is extended; but when the knee is flexed, relieving the tension on the ligaments, the mass will often become fluctuant. The swelling itself in most cases is not tender, and there is no stiffness of the knee joint although the knee may not be fully extended because of

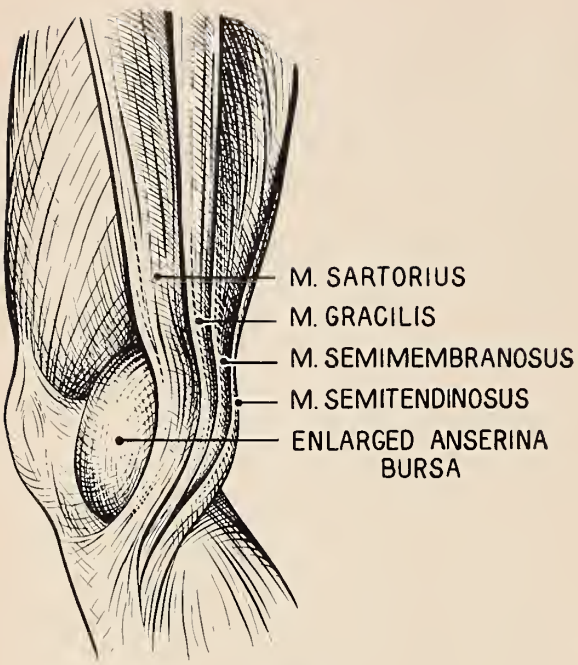


Figure 1

pain. In a roentgenogram of the knee a soft tissue mass, possibly with evidence of calcification, will be observed; but the knee joint and the tibia will have a normal appearance.

The bursa itself will usually be thick-walled and filled with an amber, gelatinous fluid. In some cases calcification may be present in the wall, or there may be osteocartilaginous bodies within the bursa. Microscopically there is little or no evidence of inflammatory reaction and the process can best be described as one of degeneration.

The preferred method of treatment in all except very minor cases is surgical excision of the bursa.

REPORT OF A CASE

The patient, a white male 48 years of age, was employed as a plumber. He was first observed in June 1950 with complaint of a swelling on the medial surface of the right knee. During the preceding few months the swelling had rapidly increased in size. There was no history of trauma to the area, but for four years the patient had noted a small painful area in the same location as the swelling. The pain increased in cold and wintry weather. There was no complaint of limitation of motion or of stiffness of the knee.

In roentgenograms a tumor of the soft tissues on the medial aspect of the knee was noted. The bony structures and the knee joint appeared normal. There was no calcification of the tumor mass.

Erythrocytes in the blood numbered 4.95 million and the hemoglobin content was 14.9 gm. per 100 cc. Leukocytes numbered 10,800 with normal differential of cells. Results of serologic tests for syphilis were negative. The urine was normal.

On June 14, 1950, an enlarged anserina bursa was excised from the right knee. It was firmly attached to the tibia and the capsule of the knee joint, but no definite communication with the knee joint was observed. The bursa was 7 x 4 x 2.5 cm. in size and was filled with a thick, gelatinous material. In microscopic examination, myxomatous degeneration, without evidence of inflammatory reaction, was noted.

Recovery was uneventful. The patient was released from the hospital on the fourth postoperative day and since then has been asymptomatic.

SUMMARY

A case of anserina bursitis, a rarely reported disease, has been presented. The salient features of the case follow closely the classical pattern of the cases previously reported in the literature.

652 East Santa Clara Street.

REFERENCES

1. Le Bourge, M.: Les lesions de la bourse sereuse de la patte d'oie, Rev. d'orthop., 17:326-333, July 1930.

2. Le Fort, Rene, and Albert, Ernest: Hygroma des cavaliers, Rev. de chir., 13:568-578, July 1893.

3. Meyerding, Henry W., and Chapman, Jessie P.: Anserina bursitis, a painful condition of the knee, Surg. Clinics of No. Amer., 27:987-994, Aug. 1947.

4. Moschcowitz, Eli: Bursitis of sartorius bursa: an undescribed malady simulating chronic arthritis, J.A.M.A., 109:1362, Oct. 23, 1937.

5. Zadek, I.: Bursa anserina; report of a case, Bull. Hosp. Joint Dis., 3:125-127, Oct. 1942.

California MEDICINE

OWNED AND PUBLISHED BY THE CALIFORNIA MEDICAL ASSOCIATION
450 SUTTER, SAN FRANCISCO 8 PHONE DOUGLAS 2-0062

Editor, DWIGHT L. WILBUR, M.D. *Assistant to the Editor,* ROBERT F. EDWARDS

Editorial Executive Committee

ALBERT J. SCHOLL, M.D., Los Angeles H. J. TEMPLETON, M.D., Oakland

EDGAR WAYBURN, M.D., San Francisco

For Information on Preparation of Manuscript, See Advertising Page 2

EDITORIAL

The 1951 Annual Session

On May 16 the California Medical Association concluded its 1951 Annual Session in Los Angeles, a meeting which was well attended—the registration exceeded 3,600—and from all appearances was most successful. Even the weather gave visitors reason to praise and residents occasion for pride. Reports indicate that members of the Woman's Auxiliary—the ladies, bless 'em—who turned out in force, managed to do a great deal of work yet find time for enjoyment too. Five guest speakers, including one from London, added immeasurably to the scientific tone of the meeting and contributed statements which drew widespread attention from the press. The newspapermen who reported the meeting were of a high order of their profession, and relations with them were pleasant. Technical exhibits were considered valuably informative to physicians at a time when they had leisure to look and listen.

If fault is to be found with the scientific side of the session it lies in the fact that the scientific sections have grown so fast in both size and interest that the attending members tend to overflow the available meeting rooms. This problem is increasing with the growth in size of the Association without corresponding growth in meeting rooms to accommodate the general and sectional meetings. The cooperation of the scientific sections in limiting the number of their meetings so as to make larger rooms available for all will go a long way toward solving this problem. Another suggestion which has been made is that other organizations hold their meetings a day in advance of the opening of the C.M.A. Annual Session or the day after it closes. An outstanding contribution to the smoothness of the Annual Session was the scheduling of the House of Delegates meetings so that they did not run concurrently with meetings of scientific sections.

On the business side, the House of Delegates met on three successive days, adopted a new Constitution and By-Laws with a minimum of friction or discussion, elected new officers and ruled on the numerous resolutions presented by members of the House.

Chosen unanimously as President-Elect was Doctor Lewis A. Alesen of Los Angeles, a surgeon who has served as Speaker of the House of Delegates for the past five years and as a Delegate to the American Medical Association since 1949. He will follow in the footsteps of Doctor H. Gordon MacLean of Oakland, who assumed office as President at the close of the session.

For Speaker of the House of Delegates, Doctor Donald Charnock of Los Angeles was unanimously chosen to move up from his former post as Vice-Speaker. This latter position went to Doctor Henry A. Randel of Fresno on a ballot vote.

Under the new Constitution adopted at this session, the Delegates from Councilor Districts elect their own members of the Council, subject only to a challenge in the House of Delegates. The eleven Councilor Districts proceeded to their own selections, renaming seven of the former nine District Councilors and adding Doctors H. Clifford Loos and J. Philip Sampson of Los Angeles County and A. A. Morrison of Ventura County as District Councilors. Doctor Francis E. West, former Councilor-at-Large, was named District Councilor from San Diego County and Doctor A. E. Varden of San Bernardino was elected as Councilor-at-Large. Other incumbents were reelected. Doctor Albert C. Daniels was reappointed as Secretary-Treasurer and Doctor Dwight L. Wilbur as Editor.

Thus the California Medical Association starts off its new year with a Council two members larger than formerly, with some new faces at the official table and with a vast enthusiasm in all departments. New blood, new ideas and new energy should carry the Association through to a new high in accomplishment.

CALIFORNIA MEDICAL ASSOCIATION

H. GORDON MacLEAN, M.D.....President
LEWIS A. ALESEN, M.D.....President-Elect
DONALD A. CHARNOCK, M.D.....Speaker
HENRY A. RANDEL, M.D.....Vice-Speaker
SIDNEY J. SHIPMAN, M.D.....Council Chairman
ALBERT C. DANIELS, M.D.....Secretary-Treasurer
DONALD D. LUM, M.D.....Chairman, Executive Committee
DWIGHT L. WILBUR, M.D.....Editor
JOHN HUNTON, Executive Secretary.....General Office, 450 Sutter Street, San Francisco 8
ED CLANCY, Field Secretary.....Southern California Office, 417 South Hill Street, Los Angeles 13, Phone: MAdison 8863

NOTICES AND REPORTS

New Constitution, New By-Laws, New Officers

Adoption of a new Constitution and By-Laws and election of officers, councilors, and delegates to the American Medical Association were among actions taken by the House of Delegates of the California Medical Association at its 1951 Annual Session in Los Angeles last month.

Although amended in particular, the new Constitution and By-Laws are essentially the same as those proposed at the 1950 meeting and previously published in CALIFORNIA MEDICINE. (The document in the form in which it was passed will be published in full later.)

New Officers

Dr. H. Gordon MacLean of Oakland was installed as President of the Association and the following officers were elected:

President-elect—Dr. Lewis A. Alesen, Los Angeles.

Speaker of the House of Delegates—Dr. Donald A. Charnock, Los Angeles.

Vice-Speaker of the House of Delegates — Dr. Henry A. Randel, Fresno.

District Councilors, Councilors-at-Large

Under the new Constitution there are eleven councilor districts, and the district councilors are elected by the delegates from the respective districts. As previously, there are six councilors-at-large, elected by the House of Delegates. District councilors and councilors-at-large elected under the new Constitution are:

District	*Term Expires*
First—Dr. Francis E. West, San Diego	1952
Second—Dr. John D. Ball, Santa Ana	1953
Third—Dr. H. Clifford Loos, Los Angeles	1954
Fourth—Dr. J. Philip Sampson, Santa Monica	1952
Fifth—Dr. A. A. Morrison, Ventura	1953
Sixth—Dr. Neil J. Dau, Fresno	1954
Seventh—Dr. Hartzell H. Ray, San Mateo	1952
Eighth—Dr. M. Laurence Montgomery, San Francisco	1953
Ninth—Dr. Donald D. Lum, Alameda	1954
Tenth—Dr. John W. Green, Vallejo	1952
Eleventh—Dr. Wayne E. Pollock, Sacramento	1953

Councilors-at-large: Dr. Benjamin Frees, Los Angeles (1952); Dr. C. V. Thompson, Lodi (1952); Dr. Sidney J. Shipman, San Francisco (1953); Dr. Wilbur Bailey, Los Angeles (1953); Dr. A. E. Varden, San Bernardino (1954); Dr. Ivan C. Heron, San Francisco (1954).

The Council reappointed Dr. Albert C. Daniels, Secretary of the Association, and Dr. Dwight L. Wilbur, Editor.

Delegates to A.M.A.

Five delegates to the American Medical Association whose terms were expiring were reelected. They are: Dr. Robertson Ward, San Francisco; Dr. Sam J. McClendon, San Diego; Dr. Eugene F. Hoffman, Los Angeles; Dr. John W. Green, Vallejo; and Dr. Lewis A. Alesen, Los Angeles. Dr. Henry Gibbons III, San Francisco, was elected alternate for Dr. Ward, succeeding Dr. Anthony B. Diepenbrock, and Dr. A. E. Moore, San Diego, alternate for Dr. McClendon, succeeding Dr. Walter Cherry. Alternates for the other three delegates were reelected — Dr. Frederic S. Ewens alternate for Dr. Hoffman, Dr. Frank A. MacDonald for Dr. Green, and Dr. John Ball for Dr. Alesen.

C.M.A. Dues

California Medical Association dues for the calendar year 1952 were set at $40 per member.

In Memoriam

Allison, Blake S. Died in Long Beach, April 16, 1951, aged 74. Graduate of Lincoln Medical College, Eclectic, 1906. Licensed in California in 1920. Dr. Allison was a retired member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✣

Barnes, Jesse W. Died in Stockton, April 27, 1951, aged 65, of a coronary. Graduate of Cooper Medical College, San Francisco, 1912. Licensed in California in 1912. Dr. Barnes was a retired member of the San Joaquin County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

✣

Cooley, Mahlon C. Died January 27, 1951, aged 61. Graduate of Meharry Medical College, Nashville, 1916. Licensed in California in 1918. Dr. Cooley was a member of the Los Angeles County Medical Association, the California Medical Association, and the American Medical Association.

✣

Davis, David B. Died in Los Angeles, April 11, 1951, aged 43, of rheumatic heart disease. Graduate of the University of Minnesota Medical School, Minneapolis, 1934. Licensed in California in 1934. Dr. Davis was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✣

Ehlers, Henry. Died in Fowler, April 25, 1951, aged 61, after a brief illness. Graduate of the University of California Medical School, Berkeley-San Francisco, 1914. Licensed in California in 1914. Dr. Ehlers was a member of the Fresno County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Hamilton, Paul M. Died in Carlsbad, New Mexico, April 9, 1951, aged 67, of a coronary. Graduate of Johns Hopkins University School of Medicine, Baltimore, 1922. Licensed in California in 1924. Dr. Hamilton was a member of the Los Angeles County Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✣

Lyda, Edwin E. Died in San Bernardino, March 15, 1951, aged 37, of pulmonary and cerebral embolism. Graduate of St. Louis University School of Medicine, 1941. Licensed in California in 1942. Dr. Lyda was a member of the San Bernardino County Medical Society, the California Medical Association, and the American Medical Association.

✣

Myers, Thomas C. Died in Los Angeles, April 9, 1951, aged 75. Graduate of the University of Southern California School of Medicine, Los Angeles, 1900. Licensed in California in 1900. Dr. Myers was a retired member of the Los Angeles County Medical Association, the California Medical Association, and an Associate Fellow of the American Medical Association.

✣

Partch, Wallace T. Died in Oakland, April 4, 1951, aged 52. Graduate of Rush Medical College, Chicago, 1926. Licensed in California in 1932. Dr. Partch was a member of the Alameda-Contra Costa Medical Association, the California Medical Association, and a Fellow of the American Medical Association.

✣

Prendergast, John J. Died in San Diego, April 8, 1951, aged 45. Graduate of Stritch School of Medicine of Loyola University, Chicago, 1932. Licensed in California in 1941. Dr. Prendergast was a member of the San Diego County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

✣

Turkus, Edward N. Died in Vista, April 19, 1951, aged 61. Graduate of Long Island College of Medicine, Brooklyn, 1913. Licensed in California in 1922. Dr. Turkus was a member of the San Diego County Medical Society, the California Medical Association, and a Fellow of the American Medical Association.

Questions and Answers about C. P. S.

Question: Are C.P.S. members supposed to bring their C.P.S. membership to the attention of physicians at the time of the first visit?

Answer: Yes, and C.P.S. stresses this point to members at the time they are enrolled. According to the strict interpretation of C.P.S. contracts, if a member neglects to inform the doctor of his C.P.S. membership at the time of the first visit (or the hospital at the time of admission) C.P.S. will not be responsible to the physician (or hospital) for the service benefits of the contract. In such cases, the member may be billed directly by the physician (or hospital). The member may then request reimbursement from C.P.S. for the amount which C.P.S. would have paid to the physician (or hospital) for the service rendered. Reimbursement requests must be made within 90 days of date of service.

Question: Will C.P.S. recognize bills incurred by members from physicians and hospitals outside California?

Answer: Yes. This is an appropriate question now as the summer vacation season is at hand and many members will be traveling outside the state. C.P.S. benefits apply anywhere in the world, providing service is obtained from licensed physicians and hospitals.

The procedure to be followed by members obtaining service outside California is: Pay the bill and get a receipt; attach the receipt to a "reimbursement request," filled out by the doctor or hospital, and send to C.P.S. within 90 days of date of service. ("Reimbursement requests" are available at any C.P.S. office. Members who plan out-of-state trips should take a small supply with them.) Reimbursements will be made (providing the service is a benefit of the member's contract) in the same amount which C.P.S. pays to California physicians and hospitals.

Physician members can be of service to their patients if this information is brought to their attention and if patients are reminded to carry their C.P.S. identification cards when traveling.

Question: Why has C.P.S. restricted x-ray and laboratory benefits in the new medical contract?

Answer: In the old medical contracts there was no dollar limit on the amount of x-ray and laboratory benefits. In the new medical contracts these benefits have been set at a maximum of $25.00 each contract year for x-rays *for illness* and $10.00 each contract year for laboratory services and allergy tests. This change, or restriction, has been made in order to make the two-visit-deductible medical contract self-supporting. Experience under the old contracts showed an overbalance of claims for x-ray and laboratory services, and this overbalance was working against the over-all financial soundness of the contract.

Question: What is the customary length of time required by C.P.S. for payment of a bill submitted by a physician?

Answer: Physicians' bills which are received by the C.P.S. medical department by the 15th of the month are normally paid by the 10th of the following month. There are sometimes delays, however, in cases of accidents involving subrogation, or when billing forms do not provide sufficient information and physicians must be contacted for further information.

Question: What brought about the recent change whereby C.P.S., instead of Blue Cross, provides the hospital coverage for persons enrolled in the health plan for members of the California State Employees' Association?

Answer: This change, effective since May 1, results from action started several months ago by the C.S.E.A. board of directors, which directed the C.S.E.A. insurance committee to study proposals for having one underwriter statewide for the full C.S.E.A. health plan, instead of having the plan divided between C.P.S. and Blue Cross. Both nonprofit and commercial organizations were asked to submit proposals, and, after considerable study, the insurance committee recommended that C.P.S. be selected. C.S.E.A. directors and the C.S.E.A. general council both approved the recommendation.

Thus, in addition to the medical, surgical and medical-while-hospitalized coverage which it was already providing for C.S.E.A. health plan members, C.P.S. now underwrites the hospital coverage as well. This hospital coverage, incidentally, is the old C.P.S. hospital contract (21 days' care at full cost and 345 days' care at half cost) rather than the new contracts which call for 50 or 100 days' care.

Question: A Spanish-American War veteran came to my office with a letter from the Veterans Administration in Washington, D. C., informing him that he was eligible for treatment under the new Public Law 791, and instructing him to present the letter to the nearest Veterans Administration office. Must he go either to San Francisco or Los Angeles to do this?

Answer: No. Have him sign the letter on the line provided, and then attach the letter to a Form 52 (request for authority to treat) and mail it to the C.P.S. Veterans Department in San Francisco or Los Angeles.

NEWS and NOTES

NATIONAL • STATE • COUNTY

ALAMEDA

Dr. Charles Edward Smith has been officially appointed Dean of the School of Public Health, University of California, Berkeley.

LOS ANGELES

The first class of students in the **School of Nursing,** University of California at Los Angeles, will begin a four-year course of study next September. Dean Lulu K. Wolf is head of the new school. The school will also provide programs for registered nurses and for graduate students working for advanced degrees, it was announced.

* * *

Dr. Robert H. Gans, Torrance, has been announced as winner of the California Tuberculosis and Health Association's Higby Memorial Award for 1951 for the best paper on non-medical aspects of tuberculosis. The award, with a prize of $150, is given annually by the association in memory of the late Ford Higby, former executive secretary of the organization, and the late Valerie Higby.

* * *

Dr. W. E. Macpherson has been elected president of the College of Medical Evangelists, replacing Dr. George T. Harding who had been president since 1948. Dr. Macpherson, who formerly was president from 1942 to 1948, has been dean and vice-president for the last three years. Dr. Harold Shryock was elected dean of the college and Dr. Varner J. Johns was named associate dean.

SAN FRANCISCO

Dr. Sidney J. Shipman was elected president-elect of the National Tuberculosis Association at the organization's annual meeting in Cincinnati last month. Dr. Shipman will be installed as president when the association meets in Boston next year.

* * *

The American College of Surgeons will hold its 37th annual Clinical Congress in San Francisco, November 5 to 9, 1951, with headquarters at the Fairmont Hotel and Civic Auditorium. The thirtieth annual Hospital Standardization Conference is scheduled to be held concurrently, with meetings in the Civic Auditorium, as a part of the congress. The combined programs will include scientific and technical exhibits, color television, cine clinics, medical motion pictures, scientific sessions, panel discussion, conferences, symposia, official meetings, and forums.

Dr. Emile Holman is chairman of the San Francisco committee on arrangements.

TRINITY

Dr. G. P. Ashcraft of Weaverville has been appointed health officer for Trinity County, succeeding Dr. D. D. Thornton. Dr. Ashcraft will serve on a part-time basis.

YOLO

Dr. John O. Raffety has been appointed Yolo County health officer, effective June 1. Dr. Raffety, who served in the same position from 1938 to 1940, will succeed Dr. John J. O'Hara who, with the assistance of other physicians in private practice, has been serving as health officer on a part-time basis.

GENERAL

The Foundation of the American Society of Plastic and Reconstructive Surgery has announced a **contest for junior and senior awards** for original contributions in plastic surgery.

Junior Award: Two scholarships in plastic surgery of six and three months respectively. The contest is open to plastic surgeons in the specialty not longer than five years.

Senior Award: For the best essay on "Mass Treatment of Burns in Atomic Warfare."

The winning essays will appear on the program of the forthcoming annual meeting of the American Society of Plastic and Reconstructive Surgery to be held at Colorado Springs, Colorado, October 31 to November 2, 1951.

All entries must be received by the chairman not later than August 15, 1951. Full particulars may be obtained from the award committee, Jacques W. Maliniac, M.D., 11 East 68th Street, New York 21, N. Y.

* * *

The second annual surgical conference of the **Reno Surgical Society** will be held August 23 to 25 at the Riverside Hotel in Reno, Nevada.

* * *

Representatives from 54 chapters totaling 285 delegates, student members, and chapter faculty advisers assembled for the 25th anniversary celebration of **Alpha Epsilon Delta** at the University of Alabama, March 21 to 24. Features of the program included a memorial service and the fourth regional conference on premedical education.

California was represented at the convention by a delegate and faculty adviser from the University of Redlands.

The national office of Alpha Epsilon Delta is located at 37 Whitemarsh Road, Ardmore, Pa., under the supervision of Dr. Maurice L. Moore, the national secretary.

* * *

The fourth annual meeting of the **American Association of Blood Banks** will be held in Minneapolis, October 22 to 24. Further details may be obtained from the secretary of the association, 3301 Junius Street, Dallas 1, Texas.

* * *

The fifth annual congress of the **Pan-Pacific Surgical Association** is scheduled for November 7 to 19 in **Honolulu,** Hawaii. The scientific program will begin November 12 and continue through November 16. It was announced by Dr. E. J. Pinkerton, president of the association, that hotel and travel reservations should be made through the association's office, Suite 7, Young Hotel Building, Honolulu.

POSTGRADUATE EDUCATION NOTICES

For more complete information as to fees and time of sessions address the institutions as listed.

UNIVERSITY OF CALIFORNIA SCHOOL OF MEDICINE, MEDICAL EXTENSION

Pediatric Conference:

June 18 through 22, 1951. Toland Hall, University of California Hospital. Fee $50.00.

Guest Lecturer: Lawson Wilkins, M.D., Associate Professor of Pediatrics and Director of Endocrine Clinic, Johns Hopkins University.

Gynecological and Obstetrical Conference:

August 29 through 31, 1951. Room 104, University Extension Building, 540 Powell Street, San Francisco. Fee $50.00.

For further information contact Stacy R. Mettier, M.D., Head of Postgraduate Instruction, Medical Extension, University of California Medical Center, San Francisco 22, California.

* * *

COLLEGE OF MEDICAL EVANGELISTS

Diseases and Injuries of Bones and Joints (3 weeks):

July 9 to 30, 1951 (full time). Fee $100.00.

For further information contact Harold M. Walton, M.D., Chairman Graduate and Postgraduate Medical Education.

STANFORD UNIVERSITY SCHOOL OF MEDICINE

Postgraduate Courses for Practicing Physicians:

General Medicine, General Surgery, Urology for General Practitioner, Practical Dermatology, Obstetrics and Gynecology, General Surgery, Surgical Anatomy, Cardiology, Diagnosis and Treatment of Tumors, Psychiatry for General Practitioners, Endocrinology, Pediatrics.

September 10-14, 1951. Fee $75.00.

For further information contact W. H. Northway, M.D., Assistant Dean, Stanford University School of Medicine, San Francisco 15, California.

* * *

LOS ANGELES HEART ASSOCIATION

Twenty-first Annual Postgraduate Symposium:

October 17, 18, 1951—Wilshire Ebell Theater.

Guest Speakers: Howard Sprague, M.D., President of the American Heart Association, and Dickinson W. Richards, Jr., M.D., Professor of Medicine, Columbia University.

Maurice L. Lipkis, M.D., Chairman, Symposium Committee, Los Angeles Heart Association, 123 N. San Vicente Blvd., Beverly Hills, California.

Dr. Ellis Sox, chief of the Division of Local Health Service, California State Department of Public Health, was elected president of the Association of State and Territorial Directors of Public Health Service at the organization's annual session held March 7 to 9 at Indianapolis.

* * *

Dr. Charles F. McCuskey of Los Angeles has been named adviser on anesthesiology and **Dr. Howard C. Naffziger,** San Francisco, adviser on neurological surgery to the National Doctors Committee for Improved Federal Medical Services. They will consult with Dr. Robert Collier Page, chairman of the committee on matters of policy, in a campaign to secure economies and greater efficiency in hospital and medical care operated by the government.

The National Doctors Committee is an affiliate of the Citizens Committee for the Hoover Report which is urging passage of the recommendations of the bipartisan Hoover Commission for unification of the various government medical agencies under a single authority.

* * *

The National Gastroenterological Association has announced a course in postgraduate gastroenterology to be given at the Drake Hotel in Chicago, September 20 to 22.

Further information may be obtained and enrollment arranged by writing the National Gastroenterological Association, Department GSJ, 1819 Broadway, New York 23, N. Y.

BOOK REVIEWS

FUNDAMENTALS OF CLINICAL FLUOROSCOPY — With Essentials of Roentgen Interpretation. By Charles B. Storch, M.D., Adjunct, Radiodiagnostic Department and Radiotherapy Department, Beth-El Hospital, Brooklyn, N. Y. Grune and Stratton, New York, 1951. 196 pages. $6.75.

The stated purpose of this monograph is to "give the basic knowledge, indicate capacity and limitations, and make the actual learning process easier." In a group of six chapters the author takes you through the mechanics of production of the fluoroscopic image, the dangers of roentgenoscopy and the importance of adequate dark adaptation. Next come chapters on fluoroscopic examination of the chest, the heart, the upper alimentary tract, the stomach and finally the colon.

Most of the illustrations are good, but in order to indicate anatomic relationships, they are drawn as they would appear on a fully illuminated fluoroscopic screen. No experienced physician interested in his own or his patient's bone marrow will use a fully illuminated large fluoroscopic screen for more than a fraction of a second. This point cannot be overstressed, and it might be desirable for subsequent editions of the book to illustrate just the diagrams and omit the outline of the fully irradiated fluoroscopic screen.

The author is assistant radiologist at the Beth-El Hospital, New York, and a graduate of Edinburgh. The manual can be recommended for students and beginners in fluoroscopy, and if properly studied, will undoubtedly make the learning process easier. However, since fluoroscopic examination is only part of the roentgen examination of most of the viscera discussed, it is to be questioned whether the manual will really serve the purpose of improving the quality of diagnostic radiology.

The vast majority of the illustrations are from roentgenograms, not from photofluorograms or films made with the fluoroscope. They may, therefore, lead the uninitiated into excessive reliance on fluoroscopy alone.

The author indicates, but does not stress with adequate frequency, the important point that "The time to make the roentgenogram is when the fluoroscopic appearance is negative." If this important dictum were followed, more small and curable lesions would unquestionably be detected.

There are 217 illustrations and a fairly adequate bibliography.

* * *

AMINO ACIDS AND PROTEINS—Theory, Methods and Application. Compiled and Edited by David M. Greenberg, Ph.D., Professor of Biochemistry and Chairman of the Division, University of California School of Medicine, Berkeley, California. Charles C. Thomas, Publisher, Springfield, Illinois, 1951. 950 pages. $15.00.

This collaborative project by a group of outstanding contributors under the direction of Professor David Greenberg reviews in concise but complete form the broad field of the amino acids and proteins. The first four chapters concern properties of amino acids and methods for their determination. Subsequent chapters cover nutritional applications and metabolism. The remainder of the book describes the chemistry, physical properties, and biological importance of the proteins. To compress such an enormous subject into a book of reasonable size, some subjects are covered only in outline, supplemented by an extensive bibliography. This volume should serve as a useful and readable source of concise information for the advanced student or investigator, and as a valuable source of references to the extensive literature of the field. The physician might find much of the subject matter somewhat technical in nature, but the volume should prove useful as a reference work.

NATURAL CHILDBIRTH — A Manual for Expectant Parents. By Frederick W. Goodrich, Jr., M.D. Prentice-Hall, Inc., New York, 1950. 176 pages. $2.95.

This book contains information which every expectant mother and father should acquire. It combines the usual prenatal information and instructions regarding the hygiene of pregnancy with the pertinent anatomical and physiological facts of pregnancy, and a detailed explanation of the events and routines to be expected both in the office and in the delivery room. In addition, it outlines the methods in use at Yale which in recent years have been heavily flavored with the advices of Grantly Dick Read. Emphasis is placed upon antenatal instruction to prospective mothers and fathers (this book might well serve as a manual for such a course), a series of exercises designed to enable the parturient to relax her muscles in labor so that the forces of nature may work more efficiently and with the production of less discomfort (excellent diagrams are included), rooming-in, and breast feeding. The book is written on the thesis that preparation for childbearing would convert an experience which is often disagreeable to one which is happy and emotionally satisfying to both the mother and the father of the newborn child. It presupposes that most of the disagreeable features of pregnancy and labor are due to fear (of the unknown and unfamiliar) which in turn leads to tension, which interferes with the efficiency of the body processes and leads to pain. It seeks to dispel fear by information and to supply an additional corrective for tension by teaching the art of relaxation.

Whether or not one subscribes to all of the routines suggested, the aims of the book are laudable, its tone is sympathetic and persuasive, and the information supplied is accurate and adequate without being wordy. (There are 168 pages.) It would be an excellent book to recommend to one's obstetrical patients.

My only criticism of the book is as follows: It tends to suggest that until the concept of "natural childbirth" came along, obstetrical practice was barbarous. The statement is made, "Pregnancy and labor still mean for most women nine long months of discomfort, followed by an experience which at best is extremely distasteful and at worst an ordeal." I do not believe that this is true and I feel that it may be harmful to plant this thought in the minds of the uninitiated. Many obstetricians who might otherwise like to use this book because of its numerous good qualities, might hesitate to do so because of this concept and because it might commit them to routines and practices which they do not employ.

* * *

TOXAEMIAS OF PREGNANCY—Human and Veterinary. A Ciba Foundation Symposium. 93 illustrations. The Blakiston Company, Philadelphia, 1950. 280 pages. $4.50.

This volume contains 26 original contributions presented a little over a year ago in London. Some are rather short notes, while others are quite comprehensive. Most of the articles are concerned with the specific toxemia of human pregnancy, but there are six dealing with pregnancy disorders in sheep or cows. These appear to be metabolic diseases such as hypocalcemia, ketosis or copper deficiency, and while they are of obvious importance in the field of veterinary medicine, they bear no resemblance to human toxemia and seem somewhat out of place in this symposium.

About half of the presentations dealing with toxemia of pregnancy in women are excellent, and for that reason alone the volume should be of interest to every obstetrician. The

pathology, hormonal changes and enzymatic aspects are each dealt with in three articles, while five are concerned with circulatory changes and five with etiologic considerations.

Several of the contributions should be singled out for special mention. The description of the pathological lesions in the hypertensive toxemias, presented by H. L. Sheehan, is superb and leaves one with the wish that this all too brief section might be expanded to monographic proportions. Dieckmann details his studies of the effects of intravenous sodium salts on the course of toxemia. He establishes the fact that 25 grams of salt per day causes an exacerbation of the toxemia syndrome in most cases (two developed convulsions and two others pulmonary edema). The protocols are of special interest, for it is doubtful whether any further reports on this type of "treatment" will appear.

Professor Kellar gives an excellent summary of the circulatory alterations in both normal and toxemic pregnancy, and Catherine Burt presents her original studies of forearm and hand blood flow during gestation. C. L. Schneider, who has written extensively in the last several years about the relation of placental thromboplastin to various complications of late pregnancy, presents a fine review of this new and intriguing subject.

With respect to etiology, the section by Theobald seems to give evidence of rather gray thinking, and Falkiner's advocacy of the placental infarct theory is somewhat trivial. Bastiaanse and Mastboom of Amsterdam present their views on the relationship of ischemia of the gravid uterus to the cause of eclampsia. This is a concept promulgated a decade ago by American investigators and further elaborated on a number of occasions since. Bastiaanse's contribution might have been improved had he chosen to refer to such work and bring it into focus with his own views.

Sommerville, deWatteville and Loraine present short articles on the hormone changes in toxemia and each of them is stimulating by virtue of instilling doubts about our prevailing concepts.

* * *

THE SCIENCE OF HEALTH. By Florence L. Meredith, B.Sc., M.D., Fellow of the American Medical Association, American Public Health and American Psychiatric Associations. Second edition. The Blakiston Company, Philadelphia, 1951. 452 pages. $3.75.

Should one be charitable with authors who write short texts for college hygiene courses? That there is a demand for such books is certain; whether it should be indulged is doubtful, for by reducing a large and complex subject to small compass, the student may be given a false sense of values. The only justifications are that behavior may be modified in a way conducive to good health in students who will not or cannot take a more complete course, or that a short course and a short text may arouse interest which will lead to further study. The difficulties inherent in this situation are extremely troublesome, and it takes courage to attempt the task. Dr. Meredith has made a worthy effort to condense her longer "Hygiene," and has added some new material, but whether this volume will accomplish the purposes mentioned is doubtful. It touches upon mortality and morbidity statistics, anatomy and physiology, body responses to injury, first aid, a wide variety of disease processes, mental health, and sexual functions. Caution has been exercised to avoid strong statements which might be objectionable to practicing physicians, and thus it loses impact for the authoritative drive toward healthful behavior. At the same time, the explanations are inadequate to motivate health habits on a reasoned basis, and often so superficial as neither to satisfy or stimulate further study.

Dr. Meredith excels in the presentation of material on mental health, and this portion of her book can be used by practicing physicians as prescribed reading for patients with minor anxieties, particularly those in the young adult group. It seems strange that although mental hygiene is handled by itself very well, its principles are neglected in other parts of the book. For example, it is implied that the individual should compute his caloric needs and accurately adjust his intake to meet them. This may be a valuable exercise for the hygiene student, but to be saddled with it as a continuing necessity for maintaining good health can hardly promote peace of mind.

The outstanding deficiencies of the book are the failure to focus attention on the wonderful capacity of the human organism for adjusting to environmental changes, and insufficient emphasis on the community aspects of health promotion. Its outstanding value is its reiteration of the admonition to seek competent professional advice when things go wrong.

* * *

THE EXCEPTIONAL CHILD IN INFANCY AND EARLY CHILDHOOD—Proceedings of the Annual Spring Conference on Education and the Exceptional Child Under the Auspices of the Child Research Clinic of The Woods Schools at Langhorne, Pennsylvania, May, 1950. Six papers, 48 pages. No charge.

This pamphlet has some exceedingly interesting material on its subject. It is a compilation of a series of lectures and presentations given by various doctors and psychologists. The first one of these is by Randolph K. Byers and is on the early recognition of developmental handicaps. The second one, by Margaret E. Fries, is on the early factors in establishing object relationship. Included in this was a film on the lying-in period which, of course, could not be reproduced; but the article itself is still rich in material. The third is by Ethel B. Waring, Ph.D., on exceptional children and principles for their guidance. The others cover such subjects as play as a learning process, the eating patterns of normal and exceptional children, and the development of oral language in children.

* * *

THE AUDIOLOGY CLINIC—A Manual for Planning a Clinic for the Rehabilitation of the Acoustically Handicapped. By Moe Bergman, Ed.D., Chief Audiologist, Audiology Clinic, New York Regional Office, Veterans Administration, New York City, U. S. A. Acta Oto-Laryngologica, Supplementum LXXXIX. 1950. The Audiology Foundation, 1104 Wabash Avenue, Chicago 5, Illinois. $1.00.

The philosophy of rehabilitation of the hard of hearing and the deaf was set forth and expanded during World War II. The Veterans Administration has since carried on aural rehabilitation in centers throughout the country. The author has described in detail the Veterans Administration's first audiology clinic established in New York City. The monograph sets forth the necessary physical space for various phases of aural rehabilitation and details of its arrangement. The soundproofed suite of rooms is particularly interesting since construction plans are included. Block diagrams outline the electro-acoustical equipment used. The qualifications of personnel are amply noted. The over-all organization of the clinic is shown in detail. The description of this particular clinic by the author is adequate. It must be remembered by the student that this set-up is unique and serves a limited area and number of patients. Such an elaborate clinic is expensive to build and maintain and is not within the budget of universities or colleges. However, for those persons interested in modest programs of aural rehabilitation this monograph can be used advantageously for reference since it includes all organizational phases of the subject, even to the point of listing manufacturers of electro-acoustical equipment.

This is the first successful comprehensive attempt by any author to bring together all the multiple organizational phases of the subject and in the field of aural rehabilitation this monograph will take its place as a standard for other workers. As the author points out, the details of specific communicative skills are not included, so such information must be sought elsewhere.

Banthine*

BROMIDE

Brand of Methantheline Bromide

—the neurogenic approach to peptic ulcer therapy—is a true anticholinergic agent.

Through its inhibitory action on the nervous mechanism, Banthine reduces the vagotonia characteristic of peptic ulcer patients—the result is a consistent decrease in hypermotility and, in most instances, hyperacidity.

SUGGESTED DOSAGE:

One or two tablets (50 or 100 mg.) every six hours.

* Banthine is the trademark of G. D. Searle & Co., Chicago 80, Illinois.

RESEARCH IN THE SERVICE OF MEDICINE **SEARLE**

COOK COUNTY

Graduate School of Medicine

ANNOUNCES CONTINUOUS COURSES

SURGERY—Intensive Course in Surgical Technic, Two Weeks, starting July 9, July 23, August 6, August 20.
Surgical Technic, Surgical Anatomy & Clinical Surgery, Four Weeks, starting July 9, August 6, September 10.
Surgical Anatomy & Clinical Surgery, Two Weeks, starting July 23, August 20, September 24.
Surgery of Colon & Rectum, One Week, starting September 17, October 15.
Esophageal Surgery, One Week, starting October 15.
Thoracic Surgery, One Week, starting October 8.
Gallbladder Surgery, Ten Hours, starting October 22.
Breast & Thyroid Surgery, One Week, starting October 1.
Fractures & Traumatic Surgery, Two Weeks, starting October 8.

GYNECOLOGY—Intensive Course, Two Weeks, starting September 24, October 22.
Vaginal Approach to Pelvic Surgery, One Week, starting September 17, November 5.

OBSTETRICS—Intensive Course, Two Weeks, starting September 10, November 5.

MEDICINE—Intensive General Course, Two Weeks, starting October 1.
Gastroenterology, Two Weeks, starting October 15.
Gastroscopy, Two Weeks, starting July 16.
Electrocardiography & Heart Disease, Two Weeks, starting July 16.
Liver & Biliary Diseases, One Week, starting September 17.

PEDIATRICS—Cerebral Palsy, Two Weeks, starting July 9.
One Year Full Time Clinical Course starting July 2.

GENERAL, INTENSIVE AND SPECIAL COURSES IN ALL BRANCHES OF MEDICINE, SURGERY AND THE SPECIALTIES

TEACHING FACULTY—ATTENDING STAFF OF COOK COUNTY HOSPITAL

Address: REGISTRAR, 427 South Honore Street
Chicago 12, Illinois

a reliable quick acting

SEDATIVE SPASMOLYTIC

ELDONAL

CANRIGHT

A well balanced Belladanna derivative farmula—plus PENTObarbital—withaut undesirable side effects ar cumulative reactians.

Formula

Each tablet contains:
Hyoscyamine Sulfate.....0.156 mg.
Atropine Sulfate.....0.029 mg.
Hyoscine Hydrobromide..0.01 mg.
PENTObarbital
Sodium (1/4 gr.).....16.2 mg.

Other Canright Quality Prescription Specialties

DIGESTANT • MATRIGEL • ELPRECAL
ELDOVITE • OBRICAL • HEMATINIC
HEMAFOLATE

ELDON H. CANRIGHT COMPANY
INCORPORATED
GLENDALE, CALIF. • ORLANDO, FLORIDA

PROVIDING ADEQUATE MEDICAL SUPPLIES IS DIFFICULT PROBLEM OF CIVIL DEFENSE

Furnishing adequate medical supplies and equipment in case of a major atomic attack is one of the most difficult problems of civil defense. This is the opinion of Dr. Perrin H. Long of Johns Hopkins University School of Medicine in Baltimore, Md. Formerly he was medical advisor to the Office of Civil Defense Planning.

The development of guided missiles, long-range bombers and the atomic bomb makes our civil defense plans of World War II outdated, said Dr. Long in a recent issue of the *Journal of the American Medical Association.* Instead of thinking about and planning for attacks involving hundreds of casualties, we now must be prepared to take care of thousands or even hundreds of thousands of casualties.

"The problems as to what should be done to provide adequate medical supplies for one, two or three major incidents is not an easy one and has not yet been answered," he said.

Dr. Long estimated that an atomic bomb bursting in the air over a populous area could cause at least 120,000 casualties. Forty thousand, he said, would die immediately or the first day. Another 20,000 would die within six weeks. The remaining number, about 80,000, would need medical and surgical care. Fifty of the eighty thousand would require hospitalization and definite treatment.

These figures are based on the estimated number of casualties atomic bomb explosions—similar to those at Hiroshima, Nagasaki, Bikini, and New Mexico—could cause. Dr. Long warns, however, that more powerful atomic missiles now have been developed and civil defense planners must keep this in mind.

The tremendous scope of the planning needed to provide adequate medical care for possibly 80,000 persons—all injured in a split second—was brought out by Dr. Long with this comparison. During 20 months of combat in Italy, the Fifth Army, he said, had to provide medical supplies for only about 75,000.

The cost alone and the losses from deterioration would be enormous if each community or state attempted to stock all of its own needed supplies, he said. A solution to the problem has not yet been reached.

One possible solution, in Dr. Long's opinion, would be to have communities and states provide the nondeteriorating items needed for first aid purposes. The federal government could provide the standard medical supplies and equipment that would be needed for definite treatment of casualties. Enough of the needed supplies could be stored in Army medical depots to take care of one, two or three such attacks. Items subject to deterioration could be constantly turned over under such a system. In case of an attack the needed medical supplies could be flown or transported by truck to any part of the country within a few hours.

POTENT
EFFECTIVE
PRACTICAL

IN SEVERE, RESISTANT HYPERTENSION

VERTAVIS-PHEN affords the advantage of economy in the everyday management of severe, resistant (Grade III) essential hypertension.

Vertavis-Phen, by virtue of the combined effect of veratrum viride (Irwin-Neisler) and phenobarbital, is a practical approach to the problem of severe, resistant hypertension. The remarkable physiologic property of veratrum viride "in producing a hypotensive effect by peripheral dilatation is pharmacologically sound."[1] Phenobarbital decreases vasoconstrictor arterial tone and permits the use of smaller doses of veratrum viride in obtaining a favorable clinical effect.

1. Holley, H. L., and Koffler, I. A.: Am. Pract. & Dig. Treat. 1:840-844, 1950.

Vertavis®-Phen

IRWIN, NEISLER & COMPANY DECATUR, ILLINOIS

DRUG GIVEN BY MOUTH RELIEVES PAIN IN SOME CANCER PATIENTS

(Continued from Front Advertising Section, Page 36)

ciated with the Memorial Center for Cancer and Allied Diseases, New York.

Triethylene melamine is a valuable addition to the small group of drugs now known to be effective in relieving pain in these types of disease, according to the doctors. This is due primarily to the fact that it can be given by mouth, releasing the patient from his dependence on a doctor for administration of the drug. All the other drugs, they point out, have to be injected intravenously, which almost always makes hospitalization necessary.

Clinical trials with the drug are being widened to include a greater variety of tumorous conditions.

CIVIL DEFENSE PLANNERS MUST INCLUDE GAS WARFARE

(Continued from Front Advertising Section, Page 40)

fectively, medical problems will be reduced to the minimum, and casualties will be confined largely to the bombed area and immediately downwind, where people were overcome before defense or evasive actions were possible. If these measures are neglected or poorly executed, the rescue and medical problems will be staggering and the loss of life may be high."

Nearly all the emergency treatment and resuscitation of the casualties, he said, would fall on nonmedical personnel trained for such an emergency, as only a small fraction of the nurses and physicians needed would be expected to arrive in time to help these initial casualties.

The Alexander Sanatorium, Inc.

Situated in the Foothills of
BELMONT, CALIFORNIA

Specialized care of Convalescents; also NERVOUS, MENTAL and ALCOHOLIC Patients.

Experienced Staff for the application of INSULIN and ELECTRIC SHOCK Therapies and for the CONDITIONED REFLEX TREATMENT of ALCOHOLISM.

Recognized by the American Medical Association; Member of Association of Private Mental Hospitals and of the Western Hospital Association.

MRS. A. S. ALEXANDER, *President* Telephone: LYtell 3-2143

CLINICAL STAFF

MEDICAL STAFF OF CALIFORNIA

Charles M. Campbell, Jr., M.D.
Director of Clinical Services

Richard H. Lambert, M.D.
Consulting Psychiatrist

Ivan A. McGuire, M.D.
Consulting Psychiatrist

David L. Reeves, M.D.
Consulting Neurologist

Thomas W. Jefferson, Ph.D.
Clinical Psychologist

MATURITY *through Education with Therapy*

NEVER BEFORE has the need been so great for maturity in our adult population . . . for clear, objective thinking and a realistic facing-up to problems — both personal and social. The emotionally disturbed child stands a poor chance of becoming a mature and valuable citizen unless he has specialized help . . . understanding guidance and encouragement in solving the problems commensurate to his age.

When, in your practice, you feel that a school-age patient needs specialized education and guidance, we invite you to let us evaluate the potential outcome. When the intelligence is normal, but emotional disturbances block the ability to learn, our experienced staff will carefully study the details and offer a considered report.

Please address your inquiries to HELEN V. BARCLAY, *Registrar*

DEVEREUX FOUNDATION
CALIFORNIA ... PENNSYLVANIA

Devereux Schools

Helena T. Devereux, Director

SANTA BARBARA, CALIFORNIA • DEVON, PENNSYLVANIA

A typical report* of 'Resodec' therapy in a congestive heart failure case

(average reading time: 2 minutes)

"NAME: P.R.C. CASE HISTORY No. 22851

AGE: 57 – Male

Diagnoses: Hypertensive and coronary heart disease, marked cardiac enlargement, chronic congestive heart failure, nephrosclerosis with mild renal insufficiency."

This patient "was unable to follow the basic rice diet satisfactorily, and there were frequent diversions from his diet." He had remained in "more or less chronic recurrent heart failure" since 1947 and had required "frequent injections of mercurials."

* * *

"On June 13, 1950, for the first time he was started on 'Resodec' therapy, 45 Gm. per day. There was an immediate drop in weight, and no further mercury was required until August 18. During this entire period there were weekly diversions from his diet, but in spite of this, his weight was reasonably well controlled. ...

"On September 8, it was decided to add sodium, 500 mg. in tablet form as sodium chloride. This he did by dissolving the salt in water and using it in a shaker. The addition of salt has accomplished a rather dramatic change in his outlook, since he has followed his diet consistently since that time and has gotten along very well. He has taken 'Resodec' faithfully. ...

"There is no question that 'Resodec' has been extremely effective. ... He has done extremely well ... and this would not have been possible without 'Resodec'. ..."

*Excerpts from an actual case history, as reported from a leading medical institution.

SURGICAL TECHNIQUE AIDS HEARING ABILITY

A surgical procedure known as fenestration has brought increased hearing ability to 70 per cent of a group of deafened patients, two doctors report in a recent issue of *Archives of Otolaryngology*, published by the American Medical Association.

The patients were suffering from a progressive type of deafness called otosclerosis, according to Drs. Louis E. Adin, Jr., of Dallas and George E. Shambaugh, Jr., of Chicago, authors of the article. Dr. Shambaugh is associated with Northwestern University Medical School, Chicago.

Otosclerosis is caused by bony growth in the passageway which carries sound to the inner ear. Fenestration creates a substitute channel through which sound can enter the ear.

The operation was performed on a series of 390 patients from 1940 to 1945 and results have now been observed from five to 10 years.

Seventy per cent of the patients, the doctors report, received a "significant hearing improvement and have maintained it." Twenty per cent lost a part of their initial gain but still have a usable level of hearing. Five per cent had no hearing improvement at all and another 5 per cent had bony closures of the opening.

The doctors observed that the older patients seemed to do better than the younger ones. Only 50 per cent of the four patients under 20 obtained hearing gain that was maintained. . . .

Located 22 miles south of San Francisco. Accessible to transportation.

Belmont, Calif.

LYtell 3-0054 . . . . . Est. 1925

Twin Pines

NEUROPSYCHIATRIC SANITARIUM

In-potient services for ocute ond chronic emotionol illnesses

Electric shock — Insulin shock
Hydrotherapy — Psychotherapy
Occupational therapy

Out-potient services for selective coses

Open Visiting and Consulting Staff

Attending Staff:

A. T. VORIS, M.D., Medical Director
T. H. BOONE, M.D. • ROBERT E. JAMES, M.D.

A REQUEST
for
CHANGE OF ADDRESS

...must reach us at least three weeks before the date of issue with which it is to take effect. Duplicate copies cannot be sent to replace those undelivered through failure to send such advance notice. With your new address be sure to send us the old one, enclosing, if possible, your address label from a recent copy.

CALIFORNIA MEDICINE
Room 2009
450 Sutter Street San Francisco 8

SEX MANUAL

For Those Married or About To Be

Written for the Layman

Fifth Edition, Revised. A medical best seller. Twelve printings. 400,000 copies.

By G. Lombard Kelly, A.B., B.S. Med., M.D., President and Professor of Anatomy, Medical College of Georgia.

With a foreword by

Robert B. Greenblatt, B.A., M.D., Professor of Endocrinology in the Medical College of Georgia.

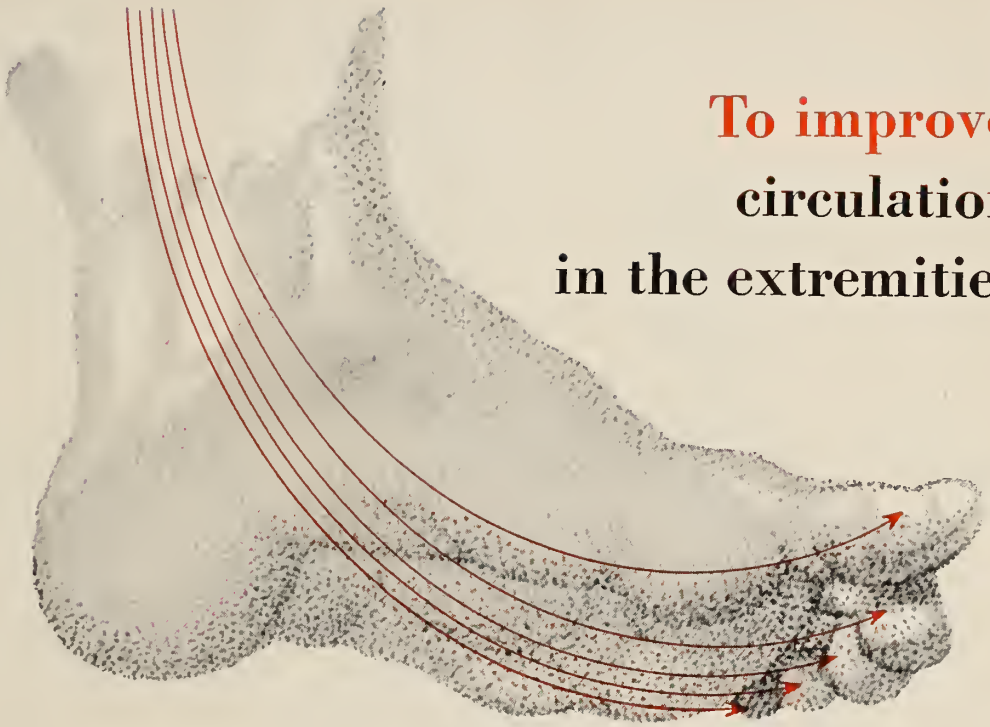
Ethically distributed. Sold only to physicians, medical students, nurses, medical bookstores or on physician's prescription. This policy strictly adhered to.

Some of the 25 chapters cover sexual lubricants, use of condom, first intercourse, frequency, positions, clitoris contact, orgasm delay by local anesthesia, impotence, climacteric, birth control, etc.

Paper cover, 88 pp. (35,000 words), 12 cuts, single copy, 76c; 2 to 9 copies, 66c ea.; 10 to 24 copies, 61c ea.; 25 to 49 copies, 51c ea.; 50 to 99 copies, 46c ea.; 100 or more, 41c ea.; POSTPAID.

Terms: REMITTANCE WITH ORDER; NO C.O.D.'s. Satisfaction guaranteed. Retail price, $1.00 to patients, in medical bookstores, or when sold on prescription. Descriptive folder on request.

SOUTHERN MEDICAL SUPPLY CO.
P.O. Box 1168-C, Augusta, Ga.



To improve circulation in the extremities

Priscoline

Orally effective vasodilator

Numerous reports on Priscoline have shown favorable results in a wide range of peripheral vascular diseases. By decreasing angiospasm, Priscoline frequently relieves pain and, by increasing the blood supply to the periphery, it promotes healing of ulcers and improves function.

Priscoline® (benzazoline) hydrochloride is available in tablets of 25 mg.; elixir, 25 mg. per 4 cc., and in 10 cc. multiple-dose vials, each cc. containing 25 mg.

Indications:

Raynaud's Disease
Buerger's Disease
Obliterative Arteriosclerosis
Causalgia
Post-Thrombotic Conditions
Frostbite
Prognostic Agent before Sympathectomy

In addition, various experimental indications are given in the literature. Write for complete information and samples.

Ciba Pharmaceutical Products, Inc., Summit, New Jersey

2/1635M

REVERSIBLE BIFOCALS NEWEST DEVELOPMENT IN EYE GLASSES

A new type of eye glasses which allows the bifocal portion to be moved out of the way when not needed is described by Dr. David E. Rolf of Cleveland in a recent issue of the *Archives of Ophthalmology*, published by the American Medical Association.

According to Dr. Rolf, the lenses of the glasses may be rotated, or turned upside down, by a unique method of attachment, so that the bifocal part is on top instead of on the bottom. In his opinion this reversible lens arrangement has certain advantages. He said:

"Its flexibility will save many patients an extra pair of glasses. It offers a possible solution to the long-standing problem of the patient who cannot accustom himself to walking while wearing bifocals in their usual position. It also permits the bifocal segment to be placed upward and out of the way during all or part of his walking activities. It would also seem applicable for patients engaged in occupations with unusual visual demands. Patients in these categories include barbers, switchboard operators, painters and paper hangers, as well as most people employed in the building trades, where sure footing is a necessity."

Dr. Rolf believes that the mechanics of changing the position of the lenses are sufficiently simple so that most persons are able to master them easily. He said there are no limitations regarding size, shape or type of bifocals or trifocals that can be used and the technique of prescribing and fitting these lenses is not difficult.

THE POTTENGER SANATORIUM and CLINIC

For Diseases of the Chest — *Monrovia, California*

AN INSTITUTION FOR DIAGNOSIS AND THERAPY
(Established 1903)

CHOICE rooms and bungalows. Rates moderate and include routine medical and nursing services, interim physical, X-ray and laboratory examination, ordinary medicines and pneumothorax. A charge is made for the first complete examination.

In the foothills of the Sierra Madre Mountains, thirty-five miles from the ocean. Surrounded by beautiful gardens.

Close medical supervision. Aside from tuberculosis, special attention is given to asthma, bronchiectasis, lung abscess and kindred diseases. Separate intitution for children.

For particulars address:

THE POTTENGER SANATORIUM AND CLINIC • Monrovia, Calif.

More than just estrogen therapy...

...THIS COMBINATION HELPS RESTORE ENERGY, FITNESS AND A SENSE OF WELL-BEING

SEStramin (PATCH) —goes beyond the provision of estrogen sufficiency—it treats also the patient's nutritional state by providing a balanced estrogen-vitamin formula.

Sestramin is indicated in natural and surgical menopause, functional amenorrhea and dysmenorrhea, suppression of lactation.

ORAL THERAPY—in tablet form, Sestramin is preferred by many patients, especially those who fear injections.

NO UNTOWARD SIDE-EFFECTS — Sestramin is better tolerated than synthetics.

Supplied: bottles of 20, 100 and 500 tablets.

TWO STRENGTHS →

SEStramin 10M—Conjugated estrogens equivalent to oral activity of Sodium Estrone Sulfate 1.25 mg.

SEStramin 5M—Conjugated estrogens equivalent to oral activity of Sodium Estrone Sulfate 0.625 mg.

Formulae: Brewers' yeast, 100 mg.; Thiamine hydrochloride, 3 mg.; Riboflavin, 2 mg.; Niacinamide, 10 mg.; Pyridoxine hydrochloride, 1 mg.; Calcium pantothenate, 5 mg.; Ascorbic acid (vitamin C), 25 mg.; Vitamin D, 500 I.U.

THE E. L. PATCH COMPANY • Stoneham, Mass.

30-35 YEARS' STANDING

WITH GENTARTH

The New Gentisate-Containing Anti-rheumatic

GENTARTH INHIBITS SPREAD OF HYALURONIDASE

While the basis of GENTARTH is buffered salicylate, still the accepted stand-by in the arthritides, to it has been added sodium gentisate which Meyer and Ragan[1] have shown to bring favorable results in rheumatoid arthritis and acute rheumatic fever. Pain, swelling and joint inflammation disappeared. The action of sodium gentisate has been attributed to its inhibition of the spreading effect of hyaluronidase.[2,3] *Raymer has pioneered in making sodium gentisate available to the medical profession.* Succinic acid, also present, protects against decrease in prothrombin time, a necessary precaution in continued salicylate therapy.

GENTARTH *Tablets are supplied in bottles of 100, 500, 1,000.*
Also Available Sodium Gentisate Tablets 325 mg.—bottles of 100. Sodium Gentisate (powder) for prescription formulation through leading pharmacies.

[1] Meyer, K. & Ragan, C.: Mod. Concepts of Card. Disp., 17:2 (1948)
[2] Quick, A. J.: J. Biol. Chem., 101:475 (1933)
[3] Guerra, J.: J. Pharm. Exp. Ther., 87:1943 (1946)

NEW CLINICAL EVIDENCE

Since the first appearance of this advertisement, new clinical evidence on GENTARTH establishes 30% greater effectiveness than salicylate alone. For other last minute reports on sodium gentisate, see

Camelin, et al: Presse Medicale, 58:889 (1950)
Schaefer, et al: Circulation, 2:265 (1950)

Your request on a prescription form will bring a free clinical supply of GENTARTH, ample to demonstrate its efficacy—enough for 1 case for 1 week—and descriptive literature!

REVERSIBLE BIFOCALS NEWEST DEVELOPMENT IN EYE GLASSES

A new type of eye glasses which allows the bifocal portion to be moved out of the way when not needed is described by Dr. David E. Rolf of Cleveland in a recent issue of the *Archives of Ophthalmology*, published by the American Medical Association.

According to Dr. Rolf, the lenses of the glasses may be rotated, or turned upside down, by a unique method of attachment, so that the bifocal part is on top instead of on the bottom. In his opinion this reversible lens arrangement has certain advantages. He said:

"Its flexibility will save many patients an extra pair of glasses. It offers a possible solution to the long-standing problem of the patient who cannot accustom himself to walking while wearing bifocals in their usual position. It also permits the bifocal segment to be placed upward and out of the way during all or part of his walking activities. It would also seem applicable for patients engaged in occupations with unusual visual demands. Patients in these categories include barbers, switchboard operators, painters and paper hangers, as well as most people employed in the building trades, where sure footing is a necessity."

Dr. Rolf believes that the mechanics of changing the position of the lenses are sufficiently simple so that most persons are able to master them easily. He said there are no limitations regarding size, shape or type of bifocals or trifocals that can be used and the technique of prescribing and fitting these lenses is not difficult.

THE POTTENGER SANATORIUM and CLINIC

For Diseases of the Chest — *Monrovia, California*

AN INSTITUTION FOR DIAGNOSIS AND THERAPY
(Established 1903)

CHOICE rooms and bungalows. Rates moderate and include routine medical and nursing services, interim physical, X-ray and laboratory examination, ordinary medicines and pneumothorax. A charge is made for the first complete examination.

In the foothills of the Sierra Madre Mountains, thirty-five miles from the ocean. Surrounded by beautiful gardens.

Close medical supervision. Aside from tuberculosis, special attention is given to asthma, bronchiectasis, lung abscess and kindred diseases. Separate intitution for children.

For particulars address:

THE POTTENGER SANATORIUM AND CLINIC • Monrovia, Calif.

More than just estrogen therapy...

...THIS COMBINATION HELPS RESTORE ENERGY, FITNESS AND A SENSE OF WELL-BEING

SEStramin (PATCH)

—goes beyond the provision of estrogen sufficiency—it treats also the patient's nutritional state by providing a balanced estrogen-vitamin formula.

Sestramin is indicated in natural and surgical menopause, functional amenorrhea and dysmenorrhea, suppression of lactation.

ORAL THERAPY—in tablet form, Sestramin is preferred by many patients, especially those who fear injections.

NO UNTOWARD SIDE-EFFECTS—Sestramin is better tolerated than synthetics.

Supplied: bottles of 20, 100 and 500 tablets.

TWO STRENGTHS

SEStramin 10M—Conjugated estrogens equivalent to oral activity of Sodium Estrone Sulfate 1.25 mg.

SEStramin 5M—Conjugated estrogens equivalent to oral activity of Sodium Estrone Sulfate 0.625 mg.

Formulae: Brewers' yeast, 100 mg.; Thiamine hydrochloride, 3 mg.; Riboflavin, 2 mg.; Niacinamide, 10 mg.; Pyridoxine hydrochloride, 1 mg.; Calcium pantothenate, 5 mg.; Ascorbic acid (vitamin C), 25 mg.; Vitamin D, 500 I.U.

THE E. L. PATCH COMPANY • Stoneham, Mass.

30-35 YEARS' STANDING

WITH GENTARTH

The New Gentisate-Containing Anti-rheumatic

GENTARTH INHIBITS SPREAD OF HYALURONIDASE

While the basis of GENTARTH is buffered salicylate, still the accepted stand-by in the arthritides, to it has been added sodium gentisate which Meyer and Ragan[1] have shown to bring favorable results in rheumatoid arthritis and acute rheumatic fever. Pain, swelling and joint inflammation disappeared. The action of sodium gentisate has been attributed to its inhibition of the spreading effect of hyaluronidase.[2,3] *Raymer has pioneered in making sodium gentisate available to the medical profession.* Succinic acid, also present, protects against decrease in prothrombin time, a necessary precaution in continued salicylate therapy.

GENTARTH *Tablets are supplied in bottles of 100, 500, 1,000.*
Also Available Sodium Gentisate Tablets 325 mg.—bottles of 100. Sodium Gentisate (powder) for prescription formulation through leading pharmacies.

[1] Meyer, K. & Ragan, C.: Mod. Concepts of Card. Disp., 17:2 (1948)
[2] Quick, A. J.: J. Biol. Chem., 101:475 (1933)
[3] Guerra, J.: J. Pharm. Exp. Ther., 87:1943 (1946)

NEW CLINICAL EVIDENCE

Since the first appearance of this advertisement, new clinical evidence on GENTARTH establishes 30% greater effectiveness than salicylate alone. For other last minute reports on sodium gentisate, see

Camelin, et al: Presse Medicale, 58:889 (1950)
Schaefer, et al: Circulation, 2:265 (1950)

Your request on a prescription form will bring a free clinical supply of GENTARTH, ample to demonstrate its efficacy—enough for 1 case for 1 week—and descriptive literature!

Southern Sierras Sanatorium

• for Tuberculosis and Allied Affections

BANNING, CALIFORNIA

Unsurpassed year-round climate

Near but not upon the desert

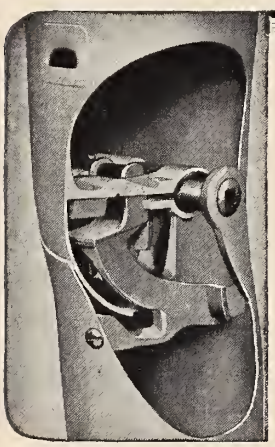
Absence of extremes • Altitude 2350 feet

Freedom from Smog

90 miles east of Los Angeles on Highways 99, 60 and 70

Sustained reputation for service and satisfaction

C. E. ATKINSON, M.D. . . *Medical Director*



PRECISION BUILT *by* Expert Craftsmen

The knee-joint cross-section shows that Hanger Artificial Limbs are not complicated mechanisms, not loosely-fitted pieces, but a few expertly-machined parts carefully assembled by experts. The simple construction making possible the efficient operation of Hanger Limbs is the result of long study and research. It is dependent on precision-made parts properly assembled. Hanger craftsmen are carefully selected and trained for this important work. Each Hanger Limb therefore conforms to specifications developed by years of experience.

HANGER ARTIFICIAL LIMBS

608 Hayes Street

San Francisco 2, California

BOOKS RECEIVED

ALLERGY: FACTS AND FANCIES—Samuel M. Feinberg, M.D., Associate Professor of Medicine, Chief of Section of Allergy and Director of Allergy Research Laboratory, Northwestern University Medical School. Harper and Brothers, New York, 1951. 173 pages. $2.50.

CHRONIC ILLNESS—Digests of Selected References—Public Health Bibliography Series No. 1—Violet B. Turner, Consultant, Division of Public Health Methods, Public Health Service. Published by Federal Security Agency, Superintendent of Documents, U. S. Government Printing Office, Washington, D. C. 216 pages. Fifty cents.

CLINICAL HEART DISEASE—Samuel A. Levine, M.D., F.A.C.P., Clinical Professor of Medicine, Harvard Medical School; Physician, Peter Bent Brigham Hospital, Boston. Fourth Edition, illustrated. W. B. Saunders Company, Philadelphia, 1951. 556 pages. $7.75.

DIABETES INSIPIDUS—Harry Blotner, M.D., Associate Visiting Physician, Beth Israel Hospital, Boston, Mass. Edited by Henry A. Christian, A.M., M.D., LL.D., Sc.D. (Hon.) M.A.C.P., Hon. F.R.C.P. (Can.), D.S.M. (A.M.A.) Oxford University Press, New York, 1951. 160 pages.

ELECTROENCEPHALOGRAPHY IN CLINICAL PRACTICE—Robert S. Schwab, M.D., Director of the Brain Wave Laboratory, Masachusetts General Hospital. Illustrated. W. B. Saunders Company, Philadelphia, 1951. 195 pages. $6.50.

FEVER THERAPY—H. Worley Kendell, M.D., F.A.C.P., Professor of Physical Medicine, University of Illinois Research and Educational Hospitals, Chicago, Ill. Charles C. Thomas, publisher, 1951. 101 pages. $2.25.

FEW BUTTONS MISSING, A—The Case Book of a Psychiatrist—James T. Fisher, M.D., and Lowell S. Hawley. J. B. Lippincott Company, Philadelphia, 1951. 282 pages. $3.50.

HANDBOOK OF MEDICAL MANAGEMENT (2nd Edition)—Milton Chatton, A.B., M.D., Instructor in Medicine; Sheldon Margen, A.M., M.D., Clinical Instructor in Medicine; and Henry D. Brainerd, A.B., M.D., Assistant Clinical Professor of Medicine and Pediatrics, all of University of California School of Medicine. University Medical Publishers, Post Office Box 761, Palo Alto. 1951. 508 pages. $3.00.

HANDBOOK OF PEDIATRIC MEDICAL EMERGENCIES—Adolph G. DeSanctis, M.D., Professor of Pediatrics, Postgraduate Medical School, New York University-Bellevue Medical Center; and Charles Varga, M.D., Instructor in Pediatrics, Postgraduate Medical School, New York University-Bellevue Medical Center. 51 illustrations. The C. V. Mosby Company, St. Louis, 1951. 284 pages. $5.00.

IMMUNOLOGY—Noble Pierce Sherwood, Ph.D., M.D., F.A.C.P., Professor of Bacteriology, University of Kansas. Third Edition. Illustrated. The C. V. Mosby Company, St. Louis, 1951. 731 pages. $8.00.

KIDNEY, THE—Structure and Function in Health and Disease—Homer W. Smith, A.B., Sc.D., M.S., Professor of Physiology, New York University College of Medicine. Oxford University Press, New York, 1951. 1,049 pages. $12.50.

KIDNEY, THE—Medical and Surgical Diseases—Arthur C. Allen, M.D., Pathologist, The James Ewing Hospital; Assistant Attending Pathologist, Memorial Cancer Center, New York City. 1,115 illustrations. Grune and Stratton, New York, 1951. 583 pages. $15.00.

TEXTBOOK OF X-RAY DIAGNOSIS, A—Volume I—Head and Neck—Edited by S. Cochrane Shanks, M.D., F.R.C.P., F.F.R., Director X-Ray Diagnostic Department, University College Hospital, London; and Peter Kerley, M.D., F.R.C.P., F.F.R., D.M.R.E., Director X-Ray Department, Westminster Hospital. Second Edition. 439 illustrations. W. B. Saunders Company, Philadelphia, 1951. 434 pages. $12.00.

YOUR SINUS TROUBLES AND TREATMENTS—An Authoritative Explanation for the Layman, with Recommendations for the Treatment of Your Sinus Conditions, Colds, Hay Fever and Other Allergies—Friedrich S. Brodnitz, M.D. Abelard Press, New York, 1950. 243 pages. $2.50.

Tolanate

BRAND OF INOSITOL HEXANITRATE

Particularly Valuable in Essential and Menopausal Hypertension

The vasorelaxing properties of Tolanate—inositol hexanitrate—are used to their best advantage in the management of essential hypertension and the hypertension of the menopause. This organic nitrate effects a favorable response in an unusually high percentage of patients treated. Of utmost importance, *it virtually never leads to so-called "nitrite headache,"* expanding its usefulness to many patients who ordinarily cannot tolerate organic nitrates.

The average dose of Tolanate is one tablet, or 10 mg., three or four times daily. Also available is Tolanate With Phenobarbital, which contains 10 mg. of inositol hexanitrate and 16 mg. (¼ gr.) of phenobarbital. This combination is valuable when emotional tension is a contributing factor.

C.S.C. Pharmaceuticals

A DIVISION OF COMMERCIAL SOLVENTS CORPORATION • NEW YORK 17, N. Y.

SAYS CURB ON UNDULANT FEVER DEPENDS ON CURE IN ANIMALS

Eradication of brucellosis, or undulant fever, in human beings depends on its elimination in animals, says the *Journal of the American Medical Association* editorially in a recent issue.

Brucellosis, the editorial points out, is not transmitted from person to person and the prevention of human infection therefore is dependent on the control and elimination of the disease in animals.

According to the *Journal*, the number of cases of brucellosis has been increasing steadily. It says:

"In 1927 there were reported only 217 new cases; in 1937, 2,497, and in 1947, 6,073 cases. The states that have the largest number of cases are Iowa, Illinois, Texas and Wisconsin. The total number reported for the past decade has averaged about 4,000 annually. Chronic infections outnumber the acute by a ratio of at least 10 to one, and the chronic infections very frequently are not diagnosed. It is probable that 40,000 to 100,000 infections occur annually."

Brucellosis in animals causes abortion or premature birth, decreased milk flow and temporary or permanent infertility, the editorial continues. It estimates that about 5 per cent of all adult female cattle in the United States have the disease.

"Therefore, at least 1,300,000 dairy and 800,000 beef cows are involved. From these figures it was estimated that the total annual loss of decreased milk production, fewer veal calves and necessary replacement of dairy cows is about $92,000,000."

According to the editorial, when vigorous campaigns against the disease in animals have been

(Continued on Page 69)

HAVE YOU CHANGED YOUR ADDRESS RECENTLY?

To insure uninterrupted delivery of your copies of CALIFORNIA MEDICINE, please return this coupon properly filled out. Address CALIFORNIA MEDICINE, 450 Sutter Street, Room 2009, San Francisco 8, California.

Name.....M.D.
(PLEASE PRINT)

Former address:	*New address:*
Street.....	Street.....
City.....	City.....
Zone.....State.....	Zone.....State.....

(Please use this coupon for address change only)

Duplicate copies cannot be sent to replace those undelivered through failure to notify this office of change of address.

New LEVERAGE FOR CONTROL

of Certain Heart and Respiratory Disorders

Dorsaphyllin now affords the therapeutic action of theophylline, *buffered by sodium glycinate to reduce gastric irritation*. With gastric acidity thus neutralized and precipitation of theophylline in the stomach prevented, the buffered drug is well tolerated in larger doses. In addition, having neither enteric nor sugar coating, Dorsaphyllin tablets disintegrate rapidly in the stomach and absorption begins immediately. By permitting the physician a freer hand in determining dosage, and by removing the obstacle to prompt therapeutic response, Dorsaphyllin brand of theophylline-sodium glycinate is providing new leverage in the management of such disorders as congestive heart failure, Cheyne-Stokes respiration, bronchial asthma, and status asthmaticus.

Tablets • Elixir • Suppositories
For children, palatable Elixir Dorsaphyllin is acceptable and well tolerated. For the hypersensitive, Dorsaphyllin Suppositories are available.

From The Literature

- Bubert and Cook, Bulletin of School of Medicine, Univ. of Maryland, Vol. 32, pp. 175-190, 1948.
- Paul and Montgomery, J. Iowa State Med. Soc., June, 1948.
- Krantz, Holbert, Iwamoto and Carr, J.A.Ph.A., Vol. 36, pp. 248-250, 1947.
- New and Non-official Remedies, 1950, p. 285.

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

dorsaphyllin

BRAND OF THEOPHYLLINE-SODIUM GLYCINATE

THE SMITH-DORSEY COMPANY
• LINCOLN, NEBRASKA •
LOS ANGELES • DALLAS • MEMPHIS

SAYS CURB ON UNDULANT FEVER DEPENDS ON CURE IN ANIMALS

(Continued from Page 68)

carried out, great savings to the national economy have resulted. It is estimated that the reduction of the incidence of brucellosis by one half has resulted in savings to the livestock industry of $50,000,000 annually.

For control of the disease in animals, the *Journal* named these three methods as available at present: (1) elimination of infected animals based on the standard serum agglutination test, (2) vaccination and (3) combination of the two.

"The evolution of treatment of brucellosis in human beings will probably be along the lines of combination of the known antibiotics," according to the *Journal*.

RECOMMEND USE OF PENICILLIN OINTMENT IN EYES OF NEWBORN

Silver nitrate solution, the preparation now being used in the eyes of newborn babies to prevent infection, may be replaced by penicillin ointment, as the result of a recent study. (Silver nitrate is required by law in many states.)

Drs. H. H. Davidson and N. J. Eastman and Sanitarian Justina H. Hill of Baltimore, writing in a recent issue of the *Journal of the American Medical Association*, recommend that penicillin ointment be used in the eyes of newborn infants in preference to silver nitrate because, in their opinion, it is "the most efficacious, the safest and least irritative agent" for this purpose.

Dr. Davidson is on the staff of Johns Hopkins

(Continued on Page 76)

The Colfax Hospital for the Tuberculous

(Formerly a Unit of the Colfax School for the Tuberculous)

Colfax, California

For the Treatment of Pulmonary Tuberculosis

Vernon W. Padgett, M.D.
Medical Director
Colfax, California

Robert A. Peers, M.D., F.A.C.P.
Consultant
Colfax, California

Emile F. Holman, M.D., F.A.C.S.
Thoracic Surgeon
Stanford Hospital

Refresh...add zest to the hour

Advertisers in your Official Journal *will appreciate requests for literature*

When the diagnosis is Pyelitis

First: consider

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

to establish and maintain urinary antisepsis...

To establish and maintain urinary antisepsis, MANDELAMINE* is many times preferred because it is quickly effective against the organisms most commonly encountered in urinary-tract infections. Its exceptional freedom from untoward reactions and its wide range of antibacterial activity commend it for use as soon as the diagnosis has been made.

Urinary antisepsis is often achieved in uncomplicated pyelitis in as few as three days. Speedy recovery is thus secured in many cases without necessitating higher-cost therapy.

Renal insufficiency is the only major contraindication to MANDELAMINE therapy.

MANDELAMINE is available in bottles of 120, 500, and 1,000 enteric-coated tablets, through all prescription pharmacies. Comprehensive literature and samples for clinical trial will be furnished to physicians on request.

NEPERA

NEPERA CHEMICAL CO., INC.
Pharmaceutical Manufacturers
NEPERA PARK, YONKERS 2, N. Y.

*MANDELAMINE is the registered trademark of Nepera Chemical Co., Inc., for its brand of methenamine mandelate.

BELIEVE IN YOURSELF!

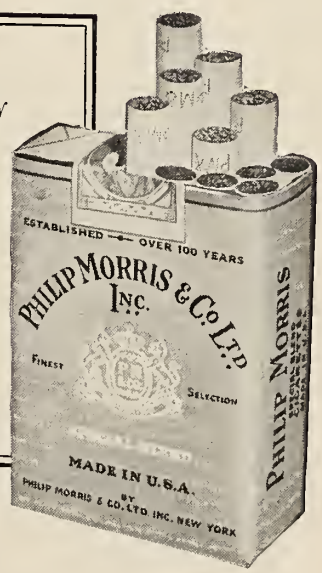
Doctor, you probably have read a great deal of cigarette advertising with all sorts of claims.

So we suggest: make this simple test...

Take a PHILIP MORRIS—and *any* other cigarette. Then,

1. Light up either one. Take a puff — don't inhale — and s-l-o-w-l-y let the smoke come through your nose.

2. Now do exactly the same thing with the other cigarette.



Notice that PHILIP MORRIS is definitely less irritating, definitely milder.

Then, Doctor, BELIEVE IN YOURSELF!

PHILIP MORRIS

Philip Morris & Co. Ltd., Inc.
100 Park Avenue, New York 17, N. Y.

Advertisers in your OFFICIAL JOURNAL *will appreciate requests for literature*

FIND SPONGE BIOPSY VALUABLE IN DISCOVERING EARLY CANCERS

Sponge biopsy, a newer method of cancer detection, has proved valuable in discovering cancers of the cervix, rectum, mouth and skin.

It is described by Dr. Sidney Gladstone of New York in a recent issue of the *Journal of the American Medical Association*. Dr. Gladstone is associated with the New York Polyclinic Medical School and Hospital.

The procedure, according to the article, is fairly simple. A gelatin or cellulose sponge is rubbed on a suspected lesion. By rubbing, small particles of tissue are picked up by the sponge. These particles are then examined by a pathologist for possible cancer cells.

Dr. Gladstone has found the method very effective. He said:

"For the detection of early cervical carcinoma, the method of sponge biopsy was found to be very reliable and distinctly superior to the method of surgical biopsy as usually performed.

"Because of the absence of distinctive visible changes, it is not surprising to learn that a single small block of tissue removed by surgical biopsy from the most favorable site will miss half these lesions."

(Continued on Page 86)

FIRKS

PHARMACEUTICALS for QUALITY

Injectables • Tablets • Antibiotics

1 • 2 • 3® tablets in varied formulas

Send your name and address to receive monthly *Bonus Specials* by mail

FIRKS PHARMACEUTICALS

3810 SO. WESTERN AVE. • LOS ANGELES 62 • REpublic 5121

LIVERMORE SANITARIUM

• The Hydropathic Department devoted to the treatment of general diseases, excluding surgical and acute infectious cases. Special attention given functional and organic nervous diseases. A well equipped clinical laboratory and modern X-ray Department are in use for diagnosis.

• The Cottage Department (for mental patients) has its own facilities for hydropathic and other treatments. It consists of small cottages with homelike surroundings, permitting the segregation of patients in accordance with the type of psychosis. Also bungalows for individual patients, offering the highest class of accommodations with privacy and comfort.

GENERAL FEATURES

1. Climatic advantages not excelled in United States. Beautiful grounds and attractive surrounding country.
2. Indoor and outdoor gymnastics under the charge of an athletic director. An excellent Occupational Department.
3. A resident medical staff. A large and well-trained nursing staff so that each patient is given careful individual attention.

Information and circulars upon request.

Address: O. B. JENSEN, M.D.
Superintendent and Medical Director
LIVERMORE, CALIFORNIA
Telephone 313

CITY OFFICES:

SAN FRANCISCO
450 Sutter Street
GArfield 1-5040

OAKLAND
1624 Franklin Street
GLencourt 1-5988

The woman who has been disabled for a quarter of every month will be grateful to learn that adequate therapy is now available for the symptom-complex of premenstrual tension.

For days preceding menstruation a great many females may experience intense headache, nervousness, backache, abdominal distention or malaise—of such degree as to be almost incapacitating. Edema often accompanies these symptoms indicating an abnormal degree of fluid retention which may be the chief etiologic agent in the syndrome.

—represents a new significant therapeutic attack on this problem. M-Minus 4 combines in each tablet 50 mg. of N,N-Dimethyl-N'-(2-pyridyl)-N'-(p-methoxybenzyl) ethylenediamine 8-bromotheophyllinate [pyrabrom]—with 100 mg. of acetophenetidin, the dependable, safe analgesic.

Clinical studies on the use of M-Minus 4 have indicated rapid correction of abnormal water retention in the premenstrual period, together with dramatic relief of symptoms. Side effects or toxic reactions have not been noted in any significant degree.

Dosage—One tablet three times a day for three to five days before onset of menses.

Bottles of 24 and 100 tablets.

Literature and a prescription package of 24 tablets will be sent upon request.

Whittier
LABORATORIES
DIVISION NUTRITION RESEARCH LABORATORIES, INC.
CHICAGO 11, ILLINOIS

Caution: In some individual cases there may be drowsiness or dizziness.

FIND SPONGE BIOPSY VALUABLE IN DISCOVERING EARLY CANCERS

(Continued from Page 80)

Dr. Gladstone has done over 1,200 sponge biopsies in two years.

In a series of 641 women examined for cancer of the cervix uteri, he found 16 cancers. Nine of these were suspected because of ulceration, bleeding or both. Seven cancers were early, however, showing no symptoms.

Sponge biopsies on 32 patients with ulcerating lesions of the rectum showed cancers in 15.

"These findings," Dr. Gladstone said, "were all confirmed by surgical biopsy, surgical specimen or operative findings. In two cases with correct diagnosis of cancer by sponge biopsy, the surgical biopsy specimen had failed to include cancerous tissue and was falsely interpreted as negative. In our experience, sponge biopsy has succeeded in collecting diagnosable cancerous tissue in all cases of cancer of the cervix and rectum."

Dr. Gladstone further reports 40 sponge biopsies on ulcerating lesions of the mouth, revealing 12 cancers, and 22 sponge biopsies of the skin, indicating 11 cancers — all confirmed by surgical biopsy.

"Because of its availability, the method of sponge biopsy offers the general practitioner an opportunity to play the principal part in the detection and diagnosis of several important types of early curable cancer," he said.

FIT PAIN-RELIEVING AGENT TO PATIENT IN CHILDBIRTH

Lacking a universal analgesic for childbirth, the trend in modern obstetrics is to fit a pain-killing drug to the patient rather than the patient to a drug, according to Dr. Curtis J. Lund of New Orleans.

Writing in a recent issue of the *Journal of the American Medical Association,* Dr. Lund said that actually analgesia begins with the first prenatal visit of the mother.

Apprehension and tension make labor more painful, he said, but "proper attention to the emotional factors in pregnancy and labor will materially reduce the need for analgesia."

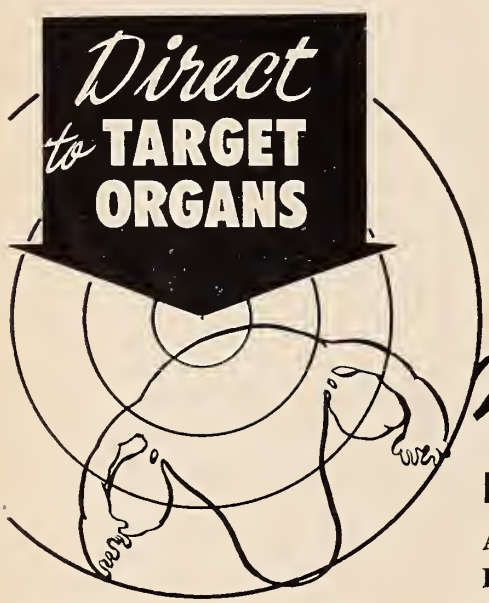
According to Dr. Lund, both the mother and the baby must be evaluated before analgesics are administered. He continued:

"Complications of pregnancy, such as toxemia, heart disease, respiratory disease and prolonged labor, require individualized attention. Premature infants, infants of diabetic mothers and those with erythroblastosis are very sensitive to analgesic drugs which should be withheld unless maternal complications demand them.

"The choice of method depends to a great degree on environment. This includes the skill and cooperation of obstetrician and anesthestist, the quality of nursing care, as well as the physical facilities at hand. . . .

"The average physician needs to know only two or three soundly established methods of analgesia

(Continued on Page 92)



TEST-ESTRIN TABLETS
For buccal or sub-lingual administration

Full Strength	
A-Estradiol U.S.P.	0.5 mg.
Testosterone Crystalline	2.5 mg.
Half Strength	
A-Estradiol U.S.P.	0.25 mg.
Testosterone Crystalline	1.25 mg.

TEST-ESTRIN
Buccal TABLETS

The *ORIGINAL* mixture of ANDROGEN plus ESTROGEN in physiologic ratio

IN THE CLIMACTERIC

Absorption by oral mucosa into systemic circulation.
Bypassing the liver permits more complete utilization.
Approximates results of parental administration.
Facilitates maintenance therapy.

Test-Estrin Injectable also available

MARLYN CO., INC. • 309 N. Edinburgh, Los Angeles 48, Cal.

BREAST FED BABIES ARE BETTER BABIES

In the long history of the human race, no perfect substitute has been found for mothers' milk. Given a normal, healthy, well-nourished mother, human milk provides for the human infant . . .

- *Precisely* the right amount and character of *protein*
- *Precisely* the right amount and character of *fat*
- *Precisely* the right amount and character of *carbohydrate.*

the **Plastishield** *technic of breast care* **encourages breast feeding**

PLASTISHIELDS protect the nipples from irritation and injury due to contact with dry clothing. They keep the nipple soft, moist and pliable and prevent the accumulation of hard, crusty exudate around the nipple. They also relieve direct pressure from the breast support, and create a slight suction which helps draw flat or partially inverted nipples to an everted position.

Plastishields are available for office dispensing or hospital use from leading surgical supply dealers.

Whenever sore, tender nipples, nipple fissures, or flat or partially inverted nipples interfere with the establishment and maintenance of a successful breast feeding regimen, the use of the PLASTISHIELD technic is indicated. PLASTISHIELDS have the greatest value when adopted as a standard hospital routine and applied in the delivery room under aseptic technic directly following parturition.

The PLASTISHIELD technic eliminates need for ointments, antiseptic agents and gauze. Excessive handling of the nipples by nurse and patient is reduced to a minimum, thus limiting danger from exogenous infection.

Pat. No. 2495307

••••••••• *PLASTISHIELDS are translucent, featherweight breast shields fabricated from Nylon. They have a smooth inner surface with an extruded central portion which loosely receives the nipple. A circular groove around the inner flange forms a slight suction to hold shields firmly in position under an ordinary breast support. PLASTISHIELDS may be sterilized by boiling, autoclaving, or washing with warm water and soap.*

Plastishield, inc.

89 South Tenth Street • Minneapolis 3, Minnesota

SAMPLE PAIR SENT ON REQUEST TO PHYSICIANS

FIT PAIN-RELIEVING AGENT TO PATIENT IN CHILDBIRTH

(Continued from Page 86)

fitted to the environment. One of these methods will usually be applicable to the patient at hand."

Low spinal anesthesia, popularly called saddle-block, is a comparatively new procedure which has received much attention of late. Dr. Eakle W. Cartwright of Pasadena, Calif., writing in the same issue of the *Journal*, expressed the opinion that "in experienced hands" it is both safe and effective.

He reports that there were no maternal deaths under this type of anesthesia in 3,236 deliveries over a seven-year period. He added that there is no "maternal or infant morbidity attributable to this technique."

He found that resuscitation of the babies was rarely necessary after delivery and initial respiration occurred promptly—almost all babies crying lustily immediately after birth.

The success of spinal anesthesia, according to Dr. Cartwright, depends on "seasoned obstetric judgment" and "mastery of the technique of spinal injection."

COMPTON SANITARIUM
820 West Compton Blvd. Compton, California
NEvada 6-1185

High Standards of Psychiatric Treatment

Las Campanas Hospital
under same Medical Direction

Approved by American College of Surgeons

Philip J. Cunnane, M.D. *Director*
G. Creswell Burns, M.D. *Medical Director*
Helen Rislow Burns, M.D. *Assistant Medical Director*

Established in 1915

Lawton School for MEDICAL ASSISTANTS
Founded 1938

TRAINED TO MEET YOUR REQUIREMENTS

Write us when in need of a qualified **MEDICAL ASSISTANT**

•

Ask us about our **INTERNE PLAN**

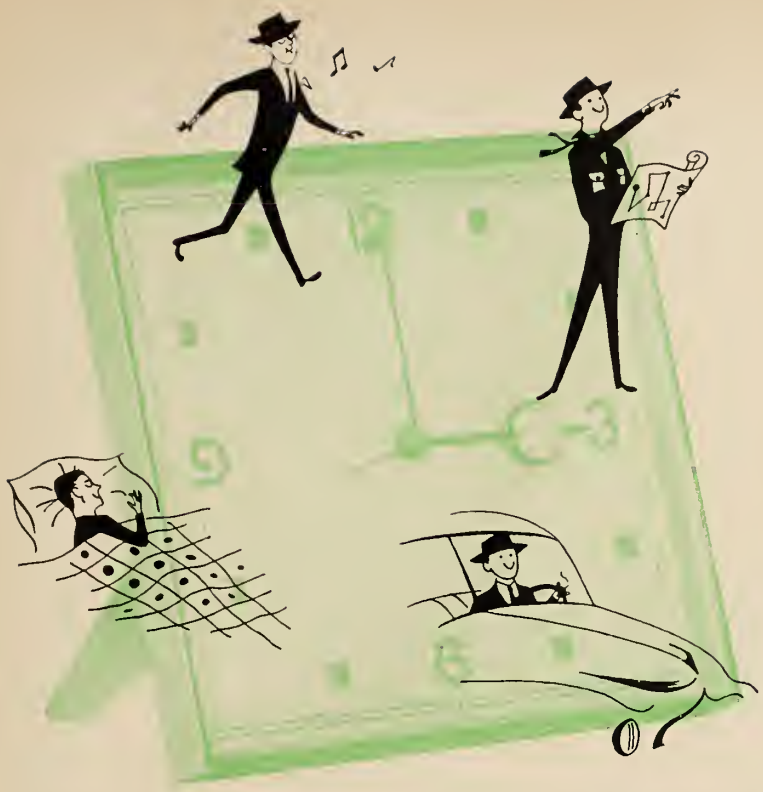
•

M. MURRAY LAWTON, M.D., Director
8475 BEVERLY BOULEVARD • LOS ANGELES 48, CALIF.

★ ★ ★

Freedom of thought and independence of action . . .

Freedom of thought and independence of action are among the keynotes of America's economy. They are fundamental to our way of life. Systematic savings through the Payroll Savings Plan help the individual maintain his own independence and freedom of action and make us strong as a nation.



For your allergic patients . . . the antihistamine that gives

'Round-the-clock relief from 4 small doses

Decapryn's *long-lasting relief*,[1] combined with *low milligram dosage*,[2] makes it the ideal antihistamine for treating difficult allergies, or patients who have not responded to other drugs.

1. "Symptoms were relieved from 4 to 24 hours after the administration of a single dose of Decapryn—" . . . Sheldon, J.M. Et al: Univ. Mich. Hosp. Bull. 14:13-15 (1948)
2. "It was found that 12.5 mg. could be given during the day with comparatively few side reactions and yet maintain good clinical results—" . . . MacQuiddy, E.L.: Neb. State M.J. 34:123 (1949)

DECAPRYN®

The long-lasting, low-dosage prescription antihistamine

DECAPRYN (DOXYLAMINE) SUCCINATE
Available on prescription only, as pleasant-tasting liquid, or tablets (12.5 mg., 25 mg.)

Merrell
1828
CINCINNATI • U.S.A.

ACCEPTED COUNCIL ON PHARMACY AND CHEMISTRY AMERICAN MEDICAL ASSOCIATION

Advertisers in your OFFICIAL JOURNAL *will appreciate requests for literature*

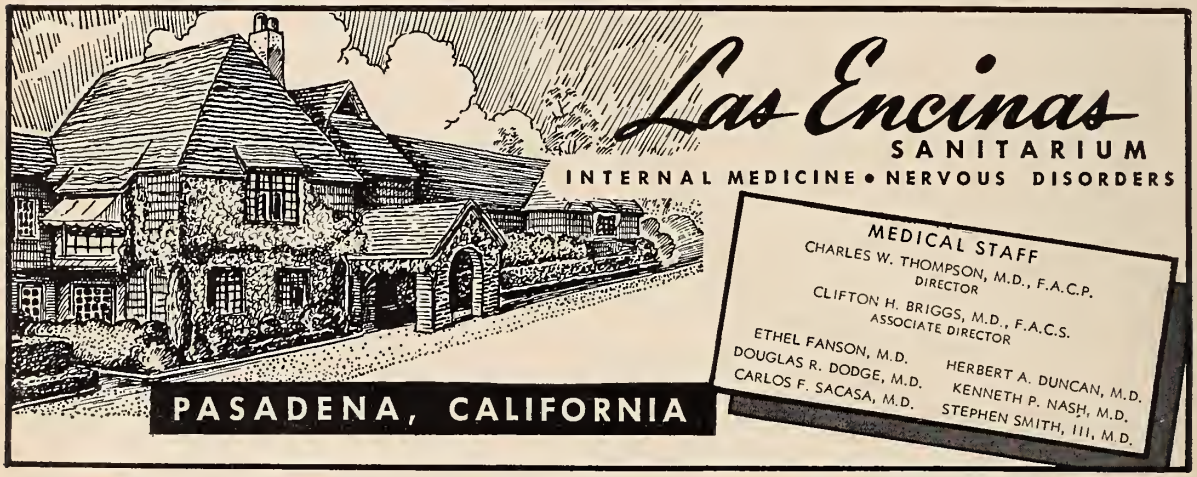
WASHINGTON NEWS

Senate Committee Studies E.M.I.C. Proposals. Senate Labor and Public Welfare Committee has decided to look into two subjects of direct interest to the medical profession: The possibility of reviving an EMIC program and the suggestion for creating a Federal Board of Hospitalization. The committee staff has been directed to collect all pertinent information on EMIC (Emergency Maternity and Infant Care) in preparation for possible hearings in June.

Two EMIC bills are before Congress, Representative Daniel Flood's H.R. 3349 and Senator Hubert Humphrey's S. 1245. Officials of the U. S. Children's Bureau, which administered the World War II EMIC program, already have conferred with representatives of a number of national organizations to get recommendations for a new plan. The Bureau now is preparing a report of the discussions. At its most recent meeting, A.M.A.'s Board of Trustees and Legislative Committee voted to oppose both bills, a major contention being that they are not necessary at this time.

The Senate Committee's staff also is lining up information on federal hospital problems for use of the committee if it decides to hold hearings on Senator Robert Kerr's bill, S. 925. This bill, which has the support of A.M.A., provides for a board com-

(Continued on Page 96)



. . . The Institute for
CHILD STUDY

A unified program for the study and personality adjustment of children. Services now offered include counselling; guidance; psychological testing; speech pathology; play therapy and educational therapy.

TRACY J. PUTNAM, M.D.
President

LOUISE J. GORDY, M.D.
Consultant Psychiatrist

ELISE HAHN, Ph.D.
Speech Pathologist

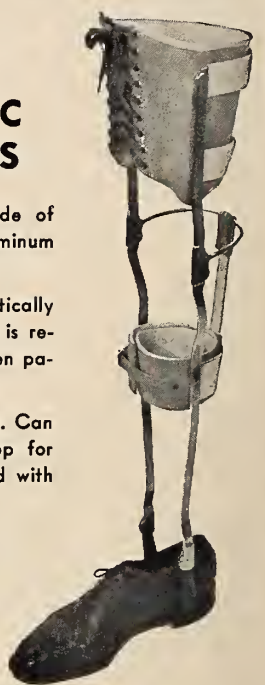
LILLIAN S. SLAFF, M.S.W.
Consultant Psychiatric Social Work

DAVID H. FILS, Ph.D.
Consultant Psychologist

O. E. HOOD, M.S.
Executive Director

450 N. Bedford Drive, Beverly Hills, Calif.
Telephone: CRestview 4-5304

for . . .
ORTHOPEDIC APPLIANCES



This long leg brace is made of stainless steel and strong aluminum alloy.

The knee joints lock automatically when leg is extended. Lock is released by edge of chair when patient sits.

Ankle joint is at action level. Can have spring lift or 90° stop for drop foot. Stirrup is covered with leather to match shoe.

△

Established 1893

"Two Generations of Appliance Makers"

△

M. J. BENJAMIN
501-518 Paramount Theatre Bldg.
Two Elevator Entrances
323 WEST 6th ST. 536 SO. HILL ST.
Phone MAdison 1593 • LOS ANGELES

ASTHMA
82% IMPROVED

HAY FEVER
87% IMPROVED

URTICARIA
98% IMPROVED

THENFADIL, a new antihistaminic, has proved to be highly effective even in bronchial asthma. Experimentally in animals, Thenfadil, (N,N-dimethyl-N'-(3-thenyl)-N'-(2-pyridyl) ethylenediamine hydrochloride) has been shown to be up to eight times more active against histamine reaction than several older antihistaminics. Clinically, Thenfadil produces excellent results in the common allergic disorders. It is comparatively well tolerated, side effects occurring in only 14 per cent of cases—mostly transient sedation. Winthrop-Stearns Inc., New York 18, N. Y., Windsor, Ont.

℞ *available in* tablets of 15 mg., bottles of 100. *on prescription only*

NEW **Thenfadil®**

HIGHLY EFFECTIVE
ANTIHISTAMINIC
well tolerated

Thenfadil, trademark reg. U. S. & Canada

WASHINGTON NEWS

(Continued from Page 94)

posed of the Attorney General, Secretaries of Defense and Interior, Administrators of Federal Security Agency, General Services Administration and Veterans Administration and Director of Bureau of the Budget. The board would make studies of hospital activities to avoid overlapping, overbuilding and general inefficiency, and would make recommendations to the President on new construction. It would call in medical leaders and experts on hospital construction and administration for advice.

Conferees Eliminate Plan for Deferment of 75,000 Students. House-Senate conferees on the draft bill (S. 1) have agreed to leave authority for deferment of students in the hands of local draft boards, which may (but are not required to) take into consideration class standing and results of nationwide tests. Deferment totals would fluctuate with military manpower requirements. The conference committee also agreed to add optometrists, dentists and osteopaths to the list of persons who may be deferred by local boards, if they are found to be essential. However, chiropractors, whose deferment eligibility was recommended by the House, are not included. The conference also agreed that organized reservists and non-veteran inactive reserves may be kept on active duty for not to exceed 24 months, the same service period set for draftees. Draftees will be liable for a total of eight years' service; divided between active duty or UMT and reserve duty, when and if UMT is put in operation. (For the present, this will mean 24 months' active duty and six years in the reserves.) The conferees left intact the doctor-draft law (P.L. 779, 81st Congress), amending it only to extend active duty from 21 to 24 months. The clause providing deferment of premedical students in numbers equal to present enrollment in such courses is retained.

Commissions Still Available to Doctors Facing Draft. Selective Service assures us it will continue to help physicians get reserve commissions before the time comes for actual drafting. After Defense Department called on Selective Service to draft 1,202 Priority I physicians this summer, Selective Service officials made these points plain to us:

1. Men selected for drafting will be notified in time to apply for reserve commissions. Local Selective Service boards will have Defense Department Form 390 for those who previously indicated they were not interested in a reserve commission but who might now want to apply. Boards also will expedite processing of men who previously indicated they wanted commissions.

2. Within the priority, age will determine the order of call-up, with the youngest going first; the same system applies to reserve officers.

3. Priority I physicians classified 1-A may apply for a reserve commission, thus avoiding induction by Selective Service and assuring an extra $100 monthly pay, but this will not mean a delay in going on active duty. Either as reserves or draftees, 717 Priority I physicians will enter Army or Air Force in July, another 333 in August and 152 in September.

4. Selective Service plans to allot state quotas based on the proportion of Priority I men in the state to the national total. However, as the number of reserves commissioned increases, the number to be drafted will decrease proportionately, both nationally and by state.

The call for 922 physicians which Defense Department made on Selective Service last October 10 was filled by reserves, not draftees.

The latest mandatory call was more or less expected: Defense officials have complained in recent months that Priority 1 men were reluctant to volunteer. They were particularly concerned about men who had indicated they would join the reserves at the time of registration but subsequently have done nothing about getting a commission. Under the doctor-draft law the supply of men in Priority 1 must be exhausted before those from other categories can be drafted and Defense Department has adopted this policy with reserves. The call for 1,202 physicians will just about exhaust the supply of Priority 1 doctors, leaving the way open for call of Priority II men.

Army Hospital Bed Requirements Increase 200 Per Cent. Army representatives, testifying before House Appropriations Committee, said 49,250 hospital beds will be needed in continental U. S., in contrast with the 16,406 beds in operation just a year ago, or an increase of about 200 per cent. Currently, 32,844 beds are being added, at a cost of more than 24 million dollars. A total of $19,330,000 was approved to meet Army medical expenses not provided for in this year's budget. Almost 60 per cent of the total will go for purchase of supplies and equipment. During the fiscal year, from July 1950 to next July, Army and Air Force expect enlistees and inductees to total 1,525,065. Cost of physical examinations is expected to average $5.33. Testimony was on a supplementary appropriations bill which already has passed the House and is expected to pass the Senate shortly.

Gen. Armstrong Nominated for Surgeon General of the Army. President Truman has nominated Maj. Gen. George Ellis Armstrong as Surgeon General of the Army, succeeding Maj. Gen. Raymond L. Bliss, who is leaving that post June 1. Gen. Armstrong, 51 and a native of Springfield, Ind., has been deputy since June 1947.

State Civil Defense Directors Urge Funds for Medical Stockpiling. State Civil Defense directors, meeting on eve of first course by Federal Civil Defense Staff College, called on Congress to give top priority for $70,000,000 for medical supply stockpiling. This sum was cut from the CDA's supplemental budget by the House and the bill is now before the Senate.

The directors said they placed the highest priority on prompt and effective treatment of injured following an atomic attack. Their resolution added: "Official statements by authoritative members of the medical supply industry and by qualified officials of the federal government have established the fact that existing reserves of medical supplies are entirely inadequate to meet even the minimum emergency requirements."

Some 75 state directors and governors met this

(Continued on Page 98)

. . . new oral penicillin fully effective in 3 to 4 doses daily

White's

DRAMCILLIN-250

250,000 units* in a teaspoonful. Pleasant tasting. In adults, 500,000 units given at 6 to 8 hour intervals is effective, avoids interruption of sleeping and eating schedule and maintains fully adequate blood levels. In infants under one year, half the above dosage is suggested. 60 cc. bottles 3,000,000 units.*

also:

WHITE'S DRAMCILLIN — 100,000 units* in a teaspoonful

WHITE'S DRAMCILLIN WITH TRIPLE SULFONAMIDES — 100,000 units* plus 0.5 Gm. mixed sulfonamides in a teaspoonful

WHITE'S DROPCILLIN — 50,000 units* in a dropperful

*Buffered Penicillin G Potossium

WHITE LABORATORIES, INC., Pharmaceutical Manufacturers, Kenilworth, N. J.

WASHINGTON NEWS

(Continued from Page 96)

week for a training course to acquaint them with the Staff College. The college begins its regular courses, which run two weeks, on May 21. Meanwhile, a meeting under CDA auspices of national organizations were to be held here Monday and Tuesday. CDA seeks to enlist aid of the group in nation-wide educational program on need for immediate and complete civil defense preparation. The A.M.A. will be represented at the sessions.

Senators May Restore House Cuts in Public Health Budget. After three days of open hearings by Senate Appropriations subcommittee, Chairman Chavez (D.-N.M.) said he agreed with testimony of Public Health Service officials that House budget cuts will not give them enough money for next year's programs. Questioning of witnesses by Senators Chavez and Lister Hill (D.-Ala.) indicated the Committee will make strong effort to restore some of the cuts.

Senator Chavez asked PHS and Federal Security Agency officials to supply the committee with detailed report on effect of House amendment forbidding them to fill more than 25 per cent of vacancies occurring during next fiscal year (medical personnel excepted). Surgeon General Leonard A. Scheele and others stressed new mobilization needs in medical and health fields. Several witnesses also dwelt on effects of biological warfare on American cities.

Dr. John W. Cronin, head of the Division of Hospital Facilities, told the Committee none of the 400 hospitals built under the Hill-Burton Act program had been forced to close for lack of staffs. He predicted the agency will continue to get the hospital personnel it needs. Dr. Cronin observed "why have a dream staff" when a smaller one can do an adequate job?

Army Plans to Act on Draftee Physical Exam Criticism. Army Surgeon General's office announced plans for calling 43 Medical Corps officers here for orientation course and then sending them to major induction stations to see there are more uniform physical exams. The Surgeon General also is preparing instructions for all induction center examiners in an effort to clear up "some misunderstanding" of regulations for physicals. The two actions are an outcome of Senate preparedness subcommittee report which criticized some stations for allowing men obviously unfit for service to get by the first medical screening.

Military Notes. Speech by Major General George E. Armstrong, Army Deputy Surgeon General, before the New York Academy of Medicine Eastern State Health Conference, gives a comprehensive picture of what keeps the Army man healthy—"The purpose of military medicine is to conserve manpower and to preserve the strength of the military forces. . . . For the most part (this means) fitting the soldier to his environment and fitting the environment to the soldier.". . . Army expanding its social services work among hospitalized personnel; formerly only neuropsychiatric cases received social services, now medical and surgical patients are included.

Federal Security Agency. Dr. Edwin F. Daily is resigning as Medical Director of Children's Bureau to take over as deputy director of the Greater New York Health Insurance Plan. . . . Cancer construction grants total $16,303,000 since the program started in 1947; nineteen projects completed and 30 still under construction. (No new money appropriated for construction this year.) . . . Alice Marcella Fay appointed Public Health Service nursing consultant for New England. . . . Children's Bureau points out that average salary for full-time child welfare case-workers is $277 a month with half of all the child welfare workers concentrated in seven northern states—2,499 workers in all. . . . Meetings: PHS Conference on Records and Statistics; PHS grant researchers on venereal disease meeting under joint sponsorship of National Institutes of Health and American Venereal Disease Association. . . . Marriage and divorce figures for 1950 show first increase in number of marriages since 1946 and a decline in divorces for the fourth consecutive year.

Notes. Atomic Energy Commission has awarded six new unclassified research contracts in biology and medicine and renewed ten others. . . . National Academy of Sciences and American Physical Society held some sessions of their annual meetings at National Bureau of Standards as part of the year-long celebration of the founding of the Bureau fifty years ago. . . . Hospitalized veterans the end of March totaled 106,382—64,544 non-service-connected cases among the 98,421 in VA hospitals. . . . American University of Beirut, Lebanon, will train Near Eastern students in preventive medicine as part of U. S. Point Four program. . . . Federal Trade Commission has issued a complaint against "Liepe Methods for Home Use," a series of preparations for eczema and varicose ulcers, whose makers claim they are able to properly diagnose ailments through questionnaires and that preparations are especially prepared for each person based upon the answers to the questionnaire. . . . Delaney Committee investigating Chemicals in Foods met to hear Dr. Frank Princi of Cincinnati University College of Medicine and others. . . . Agriculture Department has prepared a new booklet "Table of Food Composition for the Armed Forces" for the Quartermaster General.

Jos. S. Lawrence, M.D., *Director*
Washington Office

ARE YOU READING

Rx Reading

—C.M.A.'s new news letter?
Issued monthly . . . news
capsules . . . look for it.

CALIFORNIA MEDICINE

Index to Volume 74, January-June, 1951

KEY TO ABBREVIATIONS USED

(Or.)—Original Article
(Ed.)—Editorial
(CMA)—California Medical Association
(CR)—Case Report
(I)—Information
(MJ)—Medical Jurisprudence

AUTHOR INDEX

A

PAGE

Addis, Jean, *San Francisco* ... 1
Alexander, Harold B., *Pasadena* ... 38
Alexander, H. B., *Los Angeles* ... 272

B

Bagley, Richard O., *Los Angeles* ... 397
Ballard, W. R., *Los Angeles* ... 272
Barbieri, John K., *San Francisco* ... 29
Bartlett, R. E., *Los Angeles* ... 263
Beeler, Thomas T., *San Francisco* ... 274
Bernstein, Abraham, *San Francisco* ... 267
Bernstein, Henry, *San Francisco* ... 267
Bingham, Robert, *Riverside* ... 108
Boehme, Earl J., *Los Angeles* ... 397
Boland, Edward W., *Los Angeles* ... 416
Bostick, Warren L., *San Francisco* ... 111
Boucher, George O., *Long Beach* ... 128
Bower, Albert G., *Los Angeles* ... 42
Boyer, L. Bryce, *Berkeley* ... 431
Bramham, Roberta, *San Francisco* ... 1
Breslow, Lester, *Berkeley* ... 179
Brown, A. Lincoln, *San Francisco* ... 174
Buck, Robert E., *San Luis Obispo* ... 439

C

Carlson, Everett, *San Francisco* ... 31
Cass, Donald, *Los Angeles* ... 413
Chappell, George E., *Sacramento* ... 202
Chase, John S., *San Fernando* ... 185
Chope, Harold D., *Redwood City* ... 105
Conley, John W., *Los Angeles* ... 434
Cook, Orrin, *San Francisco* ... 174
Cooper, C. M., *San Francisco* ... 18
Cox, Francis J., *San Francisco* ... 81
Cross, Glen O., *San Francisco* ... 392
Cushman, Glenn F., *San Francisco* ... 131

D

Dallas, Donald A., *San Francisco* ... 92
Davis, Cooper, *San Francisco* ... 203
Denson, J. S., *Los Angeles* ... 118
Douglas, R. Gordon, *New York, N. Y.* ... 233
Douglass, L. Parry, *San Francisco* ... 131
Dray, Sheldon, *Redwood City* ... 105
Dugan, David J., *Oakland* ... 161

E

Eaton, Martha C., *Berkeley* ... 179
Ellis, James W., *Berkeley* ... 179
Epstein, Ervin, *Oakland* ... 429
Ernst, K. F., *San Francisco* ... 274

F

Finley, Knox H., *San Francisco* ... 225
Fisher, H. Russell, *Los Angeles* ... 371
Fishman, Harold C., *Beverly Hills* ... 392
Frank, William P., *Los Angeles* ... 42

G

PAGE

Gasparini, Francis L., *San Francisco* ... 250
Gates, Claudius Y., *San Francisco* ... 31
Godman, Harold E., *San Diego* ... 126
Goerke, L. S., *Los Angeles* ... 383
Gordan, Gilbert S., *San Francisco* ... 390
Griffith, George C., *Los Angeles* ... 167
Grimes, Orville F., *San Francisco* ... 203

H

Halstead, Bruce M., *Loma Linda* ... 395
Hamilton, C. I., Jr., *San Antonio* ... 41
Hartson, David, *Los Angeles* ... 253
Headley, Nathan E., *Los Angeles* ... 416
Hewes, Fred L., *San Francisco* ... 22
Hine, Charles H., *Berkeley* ... 188
Holden, Francis R., *Berkeley* ... 188
Hollister, Arthur C., *Berkeley* ... 225
Hood, Thomas K., *San Francisco* ... 250
Hooper, Nancy, *San Francisco* ... 1

I

Irwin, James B., *San Diego* ... 198

J

Jampolsky, Arthur, *San Francisco* ... 230
Jones, Henry H., *San Francisco* ... 155

K

Kaplan, Henry S., *San Francisco* ... 155
Kaye, Edward, *Newman* ... 205
Kelso, Raymond W., Jr., *Long Beach* ... 36
Kleinman, Goldy D., *Berkeley* ... 179
Klinghoffer, Kalman, *San Francisco* ... 1
Kneeshaw, R. S., *San Jose* ... 441

L

Leland, John T., *Mill Valley* ... 432
LeVan, Paul, *Los Angeles* ... 254
Levinson, David C., *Los Angeles* ... 167
Lewis, Leon, *Berkeley* ... 188
Lloyd, O. Dale, *Beverly Hills* ... 437
Luetscher, John, *San Francisco* ... 1
Lusignan, Frank W., *San Francisco* ... 392

M

Manor, Arnold, *Monterey* ... 243
Marcus, Donald M., *Long Beach* ... 36
McCleave, Thomas C., Jr., *Oakland* ... 440
McCloy, Neil P., *San Francisco* ... 424
McVeagh, Thomas C., *South San Francisco* ... 260
Meherin, J. Minton, *San Francisco* ... 29
Meier, August W., *San Francisco* ... 81
Mills, Harold, *Los Angeles* ... 195
Miners, George W., *Redwood City* ... 195

Moore, E. Vincent, *San Diego* 133
Mooslin, Kenneth E., *San Francisco* 435
Mumma, C. S., *Los Angeles* 263
Murphy, Franklin D., *Kansas City* 89

N

Nanninga, T. R., *Alhambra* 151
Nelson, Lawrence M., *Santa Barbara* 17
Nesson, Willard I., *Los Angeles* 247, 381
Nielsen, J. M., *Los Angeles* 206
Nilsson, John M., *San Mateo* 195
Nolan, Lewis E., *Sacramento* 202

O

Overstreet, Edmund W., *San Francisco* 8

P

Pace, John W., *San Francisco* 392
Pearson, Harold E., *Los Angeles* 167
Perkins, E. K., *San Francisco* 41
Perry, Daniel J., *Los Angeles* 254
Perry, Seymour, M., *Los Angeles* 434
Perzik, S. L., *Beverly Hills* 374
Petit, Donald W., *Los Angeles* 99
Pollack, Robert S., *San Francisco* 365
Pumphrey, Albert F., *Los Angeles* 397

R

Ramirez, Hall, *Bakersfield* 121
Ramsay, Beatty, *Los Angeles* 14
Rees, Clarence E., *San Diego* 117
Ross, Mathew, *Beverly Hills* 240
Rubsamen, David S., *Chicago* 115
Russell, Edward Lee, *Santa Ana* 171

S

Samson, Paul C., *Oakland* 161
Sandor, Andrew A., *Alhambra* 385
Scholtz, Jud R., *Pasadena* 193
Schottstaedt, William, *San Francisco* 390
Schulte, John W., *San Francisco* 435
Selzer, Arthur, *San Francisco* 1
Short, C. A., Jr., *San Jose* 441
Sippel, Esther, *San Francisco* 1
Smith, Lewis A., *San Francisco* 274
Sokolow, Maurice, *San Francisco* 1
Solomon, Lynn, *Los Angeles* 437
Soto-Hall, Ralph, *San Francisco* 424
Stempien, Stephen J., *Long Beach* 36
Stephenson, Henry A., *San Francisco* 151
Sternberg, Thomas H., *Los Angeles* 254
Strouse, Carl B., *Beverly Hills* 269

T

Thurber, Packard, *Los Angeles* 247
Thurber, Packard, Jr., *Los Angeles* 247, 381
Tochilin, Eugene, *San Francisco* 188
Traut, Herbert F., *San Francisco* 8

V

Vaughan, J. E., *Bakersfield* 121

W

Walstad, Paul M., *Napa* 31
Wells, John J., *San Diego* 238
Westdahl, Philip R., *San Francisco* 377
Whisenand, James M., *San Diego* 133
Williams, A. Justin, *San Francisco* 22
Williamson, Craig, *Pasadena* 193
Windholz, Frank, *San Francisco* 155
Woolington, Sam S., *Long Beach* 87
Wright, Carleton C., *Sacramento* 202

SUBJECT INDEX

A

Amebiasis Masquerading as Appendicitis, Stephen J. Stempien, Donald M. Marcus, Raymond W. Kelso, Jr., Long Beach (Or.) 36
Amnesia for Limbs—Diagnostic Value of Syndrome, J. M. Nielsen, Los Angeles (Or.) 206
Anal Herpes with Generalized Varicelliform Eruption, C. I. Hamilton, Jr., San Antonio, Texas, and E. K. Perkins, San Francisco (CR) 41
Annual Session, The (Ed.) 294
Annual Session, 1951, The (Ed.) 443
Annual Session Program and Reports (CMA) 291
Anserina Bursitis, R. S. Kneeshaw and C. A. Short, Jr., San Jose (CR) 441
Antibiotics in Management of Staphylococcal Endocarditis—With Special Reference to Increasing Bacterial Resistance, David C. Levinson, George C. Griffith, and Harold E. Pearson, Los Angeles (Or.) 167
Antithyroid Drugs, The Use of, Donald W. Petit, Los Angeles (Or.) 99
Appendicitis, Amebiasis Masquerading as, Stephen J. Stempien, Donald M. Marcus, Raymond W. Kelso, Jr., Long Beach (Or.) 36

B

Bleeding, Third Trimester, Conservative Management of, Edmund W. Overstreet and Herbert Traut, San Francisco (Or.) 8

C

California Tumor Registry, The, Lester Breslow, James W. Ellis, Martha C. Eaton, and Goldy D. Kleinman, Berkeley (Or.) 179
Cancer of the Nasal Cavity and Paranasal Sinuses, Management of, S. L. Perzik, Beverly Hills (Or.) 374
Carbon Tetrachloride Intoxication, Carl B. Strouse, Beverly Hills (CR) 269
Carcinoma of the Thyroid Gland, Robert S. Pollack, San Francisco (Or.) 365
Cataract Extraction with the Erisophake, Harold B. Alexander, Pasadena (Or.) 38
Caudal Analgesia, Experiences with, in a Small Community Hospital, Arnold Manor, Monterey (Or.) 243
Central Nervous System Lesions, Distribution and Histological Nature of—Western Equine and St. Louis Encephalomyelitis, Knox H. Finley, San Francisco and Arthur C. Hollister, Berkeley (Or.) 225
Cesarean Section, An Evaluation of, T. R. Nanninga, Alhambra, and Henry Stephenson, San Francisco (Or.) 143
Cholecystography (Kirklin), A New Position for, John J. Wells, San Diego (Or.) 238
Chronic Idiopathic Hypoparathyroidism Simulating Epilepsy, William Schottstaedt and Gilbert S. Gordan, San Francisco (CR) 390
Chronic Urticaria Following Penicillin Therapy, Ervin Epstein, Oakland (Or.) 429
Clavicle, Fracture of the, A Simple Retentive Dressing for, John T. Leland, Mill Valley (Or.) 432
Climacteric, A Psychosomatic Approach to, Mathew Ross, Beverly Hills (Or.) 240
Coccidioidomycosis as a Complication of Pregnancy, J. E. Vaughan and Hall Ramirez, Bakersfield (Or.) 121
Collagen Diseases, The, H. Russell Fisher, Los Angeles (Or.) 371
Colles' Fractures, Treatment of Difficult and Involved, Francis J. Cox and August W. Meier, San Francisco (Or.) 81

Colloidal Barium, Preliminary Studies of the Gastrointestinal Tract with, Frank Windholz, Henry S. Kaplan, and Henry H. Jones, San Francisco (Or.) 155
Common Errors in the Management of Acute Myocardial Infarction—A Critical Analysis of 58 Fatal Cases, David S. Rubsamen, Chicago (Or.) 115
Concept of Continuation Education in Medicine, The, Franklin D. Murphy, Kansas City, Kansas (Or.) 89
Conservative Management of Third Trimester Bleeding, Edmund W. Overstreet and Herbert Traut, San Francisco (Or.) 8
Cortisone, Results of Long-Continued Administration in Rheumatoid Arthritis, Edward W. Boland and Nathan E. Headley, Los Angeles (Or.) 416
Cortisone, Topical Use of in Erythema Multiforme Bullosum, Harold C. Fishman, Beverly Hills (CR) 392
Cytologic and Radiologic Observations in Lymphosarcoma of the Stomach, K. F. Ernst, Thomas T. Beeler, and Lewis A. Smith, San Francisco (CR) 274

D

Dental Caries, George O. Boucher, Long Beach (Or.) 128
Diabetes Insipidus, Treatment of with Propylthiouracil, Edward Kaye, Newman (CR) 205
Diet, Low Sodium, Practical Aspects of the, Maurice Sokolow, Jean Addis, Roberta Bramham, Nancy Hooper, John Luetscher, Kalman Klinghoffer, Arthur Selzer, and Esther Sippel, San Francisco (Or.) 1
Disability Claims, The Evaluation of Subjective Complaints in Relation to, Willard I. Nesson and Packard Thurber, Jr., Los Angeles (Or.) 381
Dissecting Aortic Aneurysm With Bizarre Neurologic and Vascular Aspects, Seymour M. Perry and John W. Conley, Los Angeles (CR) 434
Distribution and Histological Nature of Lesions in the Central Nervous System—Western Equine and St. Louis Encephalomyelitis, Knox H. Finley, San Francisco, and Arthur C. Hollister, Berkeley (Or.) 225
Diverting Medically Useful Life Hobby, A—Imitation, Self-Exploration and Self-Experimentation — In the Practice of Medicine, C. M. Cooper, San Francisco (Or.) 18

E

Effective Treatment of Socialistic Hypertension, Donald Cass, Los Angeles (Or.) 413
Eleven Years After (Ed.) 44
Encephalomyelitis, Western Equine and St. Louis—The Distribution and Histological Nature of Lesions in the Central Nervous System, Knox H. Finley, San Francisco, and Arthur C. Hollister, Berkeley (Or.) 225
Endocarditis, Staphylococcal, Antibiotics in Management of—With Special Reference to Increasing Bacterial Resistance, David C. Levinson, George C. Griffith, and Harold E. Pearson, Los Angeles (Or.) 167
Epidermoid Cysts of the Testis—A Report of Three Cases, Kenneth E. Mooslin and John W. Schulte, San Francisco (CR) 435
Epilepsy, Chronic Idiopathic Hypoparathyroidism Simulating, William Schottstaedt and Gilbert S. Gordan, San Francisco (CR) 390
Erythema Multiforme Bullosum, Topical Use of Cortisone in, Harold C. Fishman, Beverly Hills (CR) 392
Establishment and Operation of a Nerve Block Clinic, The — One Year's Experience at the Los Angeles County Hospital, J.S. Denson, Los Angeles (Or.) 118
Evaluation of Cesarean Section, An, T. R. Nanninga, Alhambra, and Henry Stephenson, San Francisco (Or.) 151
Evaluation of Subjective Complaints in Relation to Disability Claims, The, Willard I. Nesson and Packard Thurber, Jr., Los Angeles (Or.) 381
Experiences with Caudal Analgesia in a Small Community Hospital, Arnold Manor, Monterey (Or.) 243

F

Facts About A.M.A. Dues for 1951 (Ed.) 142
For Freedom in Medical Education (Ed.) 208
Fractures of the Clavicle, A Simple Retentive Dressing for, John T. Leland, Mill Valley (Or.) 432
Funnel Chest (Pectus Excavatum) in Infancy and Adult Life, A. Lincoln Brown and Orrin Cook, San Francisco (Or.) 174

H

(Hashimoto's Disease) Struma Lymphomatosa, Paul M. Walstad, Napa, Claudius Y. Gates, and Everett Carlson, San Francisco (Or.) 31
Hemorrhage of Late Pregnancy, R. Gordon Douglas, New York, N. Y. (Or.) 233
Hernia, Intra-abdominal, Roentgen Diagnosis of, A. Justin Williams and Fred L. Hewes, San Francisco (Or.) 22
Hodgkin's Disease, A Review of the Literature on the Etiology of, Warren L. Bostick, San Francisco (Or.) 111
Hospitals—Res Ipsa Loquitur (MJ) 224
Hysterectomy—Total or Subtotal for Benign Lesions, Donald A. Dallas, San Francisco (Or.) 92
Hysterical Abdominal Distention Simulating Acute Intestinal Obstruction, Philip R. Westdahl, San Francisco (Or.) 377

I

Immunization with Influenza Virus Vaccines, Sam S. Woolington, Long Beach (Or.) 87
Injurious Effects from the Sting of the Scorpionfish, *Scorpaena guttata*, Bruce W. Halstead, Loma Linda (CR) 395
Intracranial Tumors Simulating Vascular Lesions of the Brain, A Preliminary Report, David Hartson, Los Angeles (Or.) 253
Intramedullary Nailing of Femoral Fractures, Problems of, Ralph Soto-Hall and Neil P. McCloy, San Francisco (Or.) 424
Irradiation Treatment of Lymphoid Hyperplasia of the Nasopharynx, James B. Irwin, San Diego (Or.) 198

L

Legal Duties of Physicians, Andrew A. Sandor, Alhambra (Or.) 385
Lipoid Nephrosis During and After Pregnancy, Thomas C. McCleave, Jr., Oakland (CR) 440
Lymphoid Hyperplasia of the Nasopharynx, Irradiation Treatment of, James B. Irwin, San Diego (Or.) 198
Lymphosarcoma of the Stomach, Cytologic and Radiologic Observations in, K. F. Ernst, Thomas T. Beeler, and Lewis A. Smith, San Francisco (CR) 274

M

Malignant Teratoma of the Testicle in an Infant Four Months of Age, Earl J. Boehme, Richard O. Bagley, and Albert F. Pumphrey, Los Angeles (CR) 397
Management of Cancer of the Nasal Cavity and Paranasal Sinuses, S. L. Perzik, Beverly Hills (Or.) 374
Massive Hematemesis from a Cirsoid Aneurysm in a Forty-Year-Old Man, Report of a Fatal Case, Robert E. Buck, San Luis Obispo (CR) 439
Medical Corps for the Armed Services, A (Ed.) 45
Medical Education as it Should Be (Ed.) 43
Medicine in the Talmud, Abraham Bernstein and Henry Bernstein, San Francisco (Or.) 267
Medicine's Interest in the 1951 Legislature (Ed.) 277
(Mediterranean Disease), Thalassemia Occurring in Filipinos and Chinese, John M. Nilsson, San Mateo, Harold Mills, Los Angeles, and George W. Miners, Redwood City (Or.) 195

Mephenesin as a Relaxing Agent in the Treatment of Tetanus—Clinical Experience in 12 Cases, Harold E. Godman, San Diego (Or.) ... 126
Moffitt, Herbert C., Sr. (CMA) ... 280
Myocardial Infarction, Common Errors in the Management of—A Critical Analysis of 58 Fatal Cases, David S. Rubsamen, Chicago (Or.) ... 115

N

Nerve Block Clinic, The Establishment and Operation of a — One Year's Experience at the Los Angeles County Hospital, J. S. Denson, Los Angeles (Or.) ... 118
New Constitution, New By-Laws, New Officers (CMA) ... 444
New Position for Cholecystography (Kirklin), A, John J. Wells, San Diego (Or.) ... 238
No Bargain (Ed.) ... 137
Nutritional Status of the Aging, The—Public Health Aspects, Harold D. Chope and Sheldon Dray, Redwood City (Or.) ... 105

O

Omphalocele, The Surgical Management of Ruptured, L. Parry Douglass and Glenn F. Cushman, San Francisco (CR) ... 131
Osteomyelitis, Chronic, The Refrigeration Treatment of, Robert Bingham, Riverside (Or.) ... 108

P

Pancreatitis, The Problem of Prognosis in, J. Minton Meherin and John K. Barbieri, San Francisco (Or.) ... 29
Paroxysmal Hypertension Secondary to Malignant Pheochromocytoma, Report of a Case and Review of the Literature, Glen O. Cross, Frank W. Lusignan, and John W. Pace, San Francisco (CR) ... 392
Penicillin Therapy, Chronic Urticaria Following, Ervin Epstein, Oakland (Or.) ... 429
Perforated Gastric and Duodenal Ulcers—An Analysis of 73 Cases, Francis L. Gasparini and Thomas K. Hood, San Francisco (Or.) ... 250
Pheochromocytoma, Malignant, Paroxysmal Hypertension Secondary to, Glen O. Cross, Frank W. Lusignan, and John W. Pace, San Francisco (CR) ... 392
Physical Therapy (Ed.) ... 399
Physician, The, and Workmen's Compensation Cases, Packard Thurber, Packard Thurber, Jr., and Willard I. Nesson, Los Angeles (Or.) ... 247
Physician—Res Ipsa Loquitur (MJ) ... 150
Poliomyelitis, The Precipitation of Clinical, by Injections, L. S. Goerke, Los Angeles (Or.) ... 383
Practical Aspects of the Low Sodium Diet, Maurice Sokolow, Jean Addis, Roberta Bramham, Nancy Hooper, John Luetscher, Kalman Klinghoffer, Arthur Selzer, and Esther Sippel, San Francisco (Or.) ... 1
Precipitation of Clinical Poliomyelitis by Injections, The, L. S. Goerke, Los Angeles (Or.) ... 383
Preliminary Studies of the Gastrointestinal Tract With Colloidal Barium, Frank Windholz, Henry S. Kaplan, and Henry H. Jones, San Francisco (Or.) ... 155
Prevention of Injury from X-Radiation, Francis R. Holden, Berkeley; Eugene Tochilin, San Francisco; Charles H. Hine and Leon Lewis, Berkeley (Or.) ... 188
Private Practice - Health Department Relationships—How Can They be Improved?, Edward Lee Russell, Santa Ana (Or.) ... 171
Problem of Prognosis in Pancreatitis, The, J. Minton Meherin and John K. Barbieri, San Francisco (Or.) ... 29
Problem of the Poor Reader, The, Arthur Jampolsky, San Francisco (Or.) ... 230
Problems in Intramedullary Nailing of Femoral Fractures, Ralph Soto-Hall and Neil P. McCloy, San Francisco (Or.) ... 424
Prophylactic Psychotherapy Before Desexualizing Operations, L. Bryce Boyer, Berkeley (Or.) ... 431
Psoriasis and Neurodermatitis, Undecylenic Acid in the Treatment of, Lawrence M. Nelson, Santa Barbara (Or.) ... 17
Psychosomatic Approach to the Climacteric, Mathew Ross, Beverly Hills (Or.) ... 240
Pterygia—Etiologic Theories, Methods of Treatments, and Results, R. E. Bartlett and C. S. Mumma, Los Angeles (Or.) ... 263
Pulmonary Segmental Resection of Solitary Lesions of Doubtful Character, Beatty Ramsay, Los Angeles (Or.) ... 14
Pyribenzamine, Studies of the "Antihistaminic" Effect of, Administered by Various Routes, Paul LeVan, Thomas H. Sternberg, and Daniel J. Perry, Los Angeles (Or.) ... 254

R

Rat Bite Fever — Response to Streptomycin Therapy, William P. Frank and Albert G. Bower, Los Angeles (CR) ... 42
Refrigeration Treatment of Chronic Osteomyelitis, The, Robert Bingham, Riverside (Or.) ... 108
Renal Actinomycosis, With Report of a Primary Case, James M. Whisenand and E. Vincent Moore, San Diego (CR) ... 133
Report of Joint Committee on Chest X-Ray (I) ... 408
Res Ipsa Loquitur (MJ) ... 150, 224
Results of Long-Continued Cortisone Administration in Rheumatoid Arthritis, Edward W. Boland and Nathan E. Headley, Los Angeles (Or.) ... 416
Return of the Vestibular Function Following Streptomycin Toxemia, John S. Chase, San Fernando (Or.) 185
Review of the Literature on the Etiology of Hodgkin's Disease, The, Warren L. Bostick, San Francisco (Or.) 111
Revised Proposed Constitution Submitted by Reference Committee No. 3, April 30, 1950, Second Printing (CMA) ... 51
Rheumatoid Arthritis, Results of Long-Continued Cortisone Administration in, Edward W. Boland and Nathan E. Headley, Los Angeles (Or.) ... 416
Roentgen Diagnosis of Intra-abdominal Hernia, A. Justin Williams and Fred L. Hewes, San Francisco (Or.) 22

S

Schwannoma of the Stomach, George E. Chappell, Carleton C. Wright, and Lewis E. Nolan, Sacramento (CR) ... 202
Significance of Pure Pigment Calculi in Biliary Operations, The, H. B. Alexander and W. R. Ballard, Los Angeles (CR) ... 272
Simple Retentive Dressing for Fractures of the Clavicle, A, John T. Leland, Mill Valley (Or.) ... 432
Skin Granuloma Following Laceration by a Fluorescent Lamp, Cooper Davis and Orville F. Grimes, San Francisco (CR) ... 203
"Slipped Elbow" of Young Children, The, Thomas C. McVeagh, South San Francisco (Or.) ... 260
Solitary Cyst of the Adrenal Gland, O. Dale Lloyd, Beverly Hills, and Lynn Solomon, Los Angeles (CR) ... 437
Studies of the "Antihistaminic" Effect of Pyribenzamine Administered by Various Routes, Paul LeVan, Thomas H. Sternberg, and Daniel J. Perry, Los Angeles (Or.) 254
Struma Lymphomatosa (Hashimoto's Disease), Paul M. Walstad, Napa, Claudius Y. Gates, and Everett Carlson, San Francisco (Or.) ... 31
Surgical Management of Ruptured Omphalocele, The, L. Parry Douglass and Glenn F. Cushman, San Francisco (CR) ... 131

T

Therapeutic Perspective, Jud R. Scholtz and Craig Williamson, Pasadena (Or.) 193
Thyroid Gland, Carcinoma of the, Robert S. Pollack, San Francisco (Or.) 365
Topical Use of Cortisone in Erythema Multiforme Bullosum, Harold C. Fishman, Beverly Hills (CR) 392
Treatment of Diabetes Insipidus with Propylthiouracil, Edward Kaye, Newman (CR) 205
Treatment of Difficult and Involved Colles' Fractures, Francis J. Cox and August W. Meier, San Francisco (Or.) 81
Treatment of Mediastinal Tumors, The, Paul C. Samson and David J. Dugan, Oakland (Or.) 161

U

Ulcers, Perforated Gastric and Duodenal—An Analysis of 73 Cases, Francis L. Gasparini and Thomas K. Hood, San Francisco (Or.) 250
Undecylenic Acid in the Treatment of Psoriasis and Neurodermatitis, Lawrence M. Nelson, Santa Barbara (Or.) 17
Use of Antithyroid Drugs, The, Donald W. Petit, Los Angeles (Or.) 99
Use of the Benzidine Test for Occult Blood in Abnormal Mammary Secretions, The, Clarence E. Rees, San Diego (Or.) 117
Urticaria, Chronic, Following Penicillin Therapy, Ervin Epstein, Oakland (Or.) 429

V

Vestibular Function, Return of the, Following Streptomycin Toxemia, John S. Chase, San Fernando (Or.) 185

W

Western Equine and St. Louis Encephalomyelitis—The Distribution and Histological Nature of Lesions in the Central Nervous System, Knox H. Finley, San Francisco, and Arthur C. Hollister, Berkeley (Or.) 225
Workmen's Compensation Cases, The Physician and, Packard Thurber, Packard Thurber, Jr., and Willard I. Nesson, Los Angeles (Or.) 247

EDITORIALS

Annual Session, The 294
Annual Session, 1951, The 443
Eleven Years After 44
For Freedom in Medical Education 208
Medical Corps for the Armed Services, A 45
Medical Education as It Should Be 43
Medicine's Interest in the 1951 Legislature 277
No Bargain 137
Physical Therapy 399

CALIFORNIA MEDICAL ASSOCIATION

Annual Session Program and Reports 291
Council Meeting Minutes:
376th Meeting, November 5, 1950 47
377th Meeting, January 27, 1951 211
378th Meeting, March 17, 1951 401
Executive Committee Meeting Minutes:
224th Meeting, November 30, 1950 49
225th Meeting, February 15, 1951 279
New Constitution, New By-Laws, New Officers 444
Revised Proposed Constitution Submitted by Reference Committee No. 3, April 30, 1950 51

INFORMATION

Facts About A.M.A. Dues for 1951 142
Report of Joint Committee on Chest X-Ray 408
School Nutrition Program Recommendations 143

MEDICAL JURISPRUDENCE

Hospitals—Res Ipsa Loquitur 224
Physicians—Res Ipsa Loquitur 150

BOOKS

Abnormal Pneumoencephalogram, The 77
Amino Acids and Proteins 149
Amusing Quotations for Doctors and Patients 149
Antihistamines, The 286
Atlas of Human Anatomy, An 146
Audiology Clinic, The 450
Blood Transfusion 288
Buchanan's Manual of Anatomy 80
Clinical Examination of Patients 411
Coagulation, Thrombosis, and Dicumarol 80
Common Infectious Diseases, The 289
Communicable Diseases 77
Coronary Circulation in Health and Disease 145
Cytology and Life-History of Bacteria, The 76
Diagnosis of Hysteria, The 221
Diseases of the Nervous System 75
Diseases of Women 412
Emergencies in Medical Practice 148
Emotions and Clinical Medicine 412
Exceptional Child in Infancy and Early Childhood, The 450
Facial Paralysis 148
Freud: Dictionary of Psychoanalysis 410
Fundamentals of Clinical Fluoroscopy 449
Geriatric Nursing 79
Hairfree—The Story of Electrolysis 145
Handbook of Bacteriology 75
Handbook of Medical Protozoology 78
Health Instruction Yearbook 222
Hearing Tests and Hearing Instruments 149
Histology of the Body Tissues, A 146
House Staff Manual—Los Angeles County Hospital 147
Integrated Practice of Medicine, An—Progress Volume (Vol. V) 147
Inter-Allied Conference on War Medicine, 1942-1945 222
Laboratory Manual for Pharmacognosy 410
Language for the Preschool Deaf Child 289
Liver, The, Porta Malorum 411
Lord Lister, His Life and Doctrine 221
Low Fat, Low Cholesterol Diet, The 287
Management of Obstetric Difficulties, The 287
Manual of Cardiology, A 77
Mask of Sanity, The 286
Medical Diagnosis 79
Methods in Medical Research—Vol. 3 290
Modern Treatment of Asthma, The 223
Multiple Sclerosis and the Demyelinating Diseases 75
Natural Childbirth 449
Non-Gonococcal Urethritis 221
Normal Encephalogram 412
Noses 148
Office Orthopedics 76
Other Side of the Bottle, The 149
Pars Pro Toto 144
Pathologic Physiology: Mechanisms of Disease 289
Pathology of Internal Diseases, The 148
Physician Examines the Bible, The 222
Physicians Federal Income Tax Guide and Simplified Accounting Record 221
Postgraduate Gastroenterology 78
Primer for Diabetic Patients, A 76
Primer of Allergy 144
Principles of General Psychopathology 287
Principles of Internal Medicine 288
Progress in Gynecology—Volume II 286
Prostate Gland, The 290
Psychiatric Sections in General Hospitals 145
Psychosomatic Medicine 222
Pye's Surgical Handicraft 223
Regional Dermatologic Diagnoses 76
Renal Diseases 410
Research in Medical Science 75
Researches in Binocular Vision 290

Results of Radium and X-Ray Therapy in Malignant Disease, 1940-1944, The ... 80
Richtlinien Einer Philosophie Der Medizin ... 148
Santa Claus, M.D. ... 80
Savill's System of Clinical Medicine ... 288
Science of Health, The, Second Edition ... 450
Serology with Lipid Antigen ... 149
Sexual Fear ... 147
Steroid Hormones and Tumors ... 148
Studies in Lobotomy ... 223
Synopsis of Obstetrics and Gynaecology ... 290
Textbook of Bacteriology ... 78
Textbook of X-Ray Diagnosis, A, Vol. III ... 144
Textbook of X-Ray Diagnosis, A, Vol. IV ... 145
Thromboembolic Conditions and Their Treatment With Anticoagulants ... 411
Toxaemias of Pregnancy ... 449
Urinary Function of the Kidney, The ... 289
When Minds Go Wrong ... 410
William Withering of Birmingham ... 149
Williams Obstetrics ... 79
"Your Prostrate Gland" ... 289
1950 Year Book of Drug Therapy ... 411
1950 Year Book of Obstetrics and Gynecology ... 412

DEATHS

Allison, Blake S., April 16, 1951 ... 445
Anderson, Clyde Maxwell, November 21, 1950 ... 215
Bailey, Frank J., February 21, 1951 ... 282
Banks, Alfred E., January 16, 1951 ... 215
Barnes, Jesse W., April 27, 1951 ... 445
Beatty, James D., January 3, 1951 ... 215
Bramhall, Robert N., December 16, 1950 ... 215
Buckmann, Henry D., March 7, 1951 ... 404
Burlew, Jesse M., December 8, 1950 ... 215
Clark, Carl W., February 10, 1951 ... 215
Clark, William R. P., December 10, 1950 ... 50
Cooley, Mahlon C., January 27, 1951 ... 445
Cunningham, Terence Thomas, December 12, 1950 ... 215
Davis, David B., April 11, 1951 ... 445
Ehlers, Henry, April 25, 1951 ... 445
Enos, Manuel M., February 14, 1951 ... 282
Fisher, Ward L., January 29, 1951 ... 215
Gardenier, Crane, December 7, 1950 ... 50
Gundrum, Willis H., February 12, 1951 ... 282
Hamilton, Paul M., April 9, 1951 ... 445
Harding, Carl W., December 27, 1950 ... 215
Hastings, Seman W., January 19, 1951 ... 215
Henry, Herman, December 7, 1950 ... 50
Houston, Albert J., March 28, 1951 ... 404
Jacobs, Jay, March 18, 1951 ... 404
Jacobus, Lawrence Russell, December 31, 1950 ... 215
Kindall, Lloyd, November 16, 1950 ... 50
Krevitt, Julius M., November 22, 1950 ... 215
Kuder, William S., January 29, 1951 ... 215
Lartigau, August J., March 15, 1951 ... 404
Laughon, William I., December 25, 1950 ... 215
Lippman, Marion Hyman, November 17, 1950 ... 50
Lyda, Edwin E., March 15, 1951 ... 445
McDonnell, Clarence H., October 22, 1950 ... 215
McGrath, Leon W., December 12, 1950 ... 216
Mendelsohn, Louis, November 12, 1950 ... 50
Moffitt, Herbert C., Sr., February 5, 1951 ... 216, 280
Morton, Andrew W., March 26, 1951 ... 404
Myers, Thomas C., April 9, 1951 ... 445
Oldenbourg, Louise A., January 30, 1951 ... 216
Partch, Wallace T., April 4, 1951 ... 445
Prendergast, John J., April 8, 1951 ... 445
Reud, William R., January 28, 1951 ... 216
Rey, Herman F., February 21, 1951 ... 282
Rosencrantz, Esther, December 18, 1950 ... 216
Scherer, Carl A., February 12, 1951 ... 282
Singer, Joseph, November 8, 1950 ... 50
Smith, Benjamin H., December 13, 1950 ... 216
Smith, Kirby B., January 12, 1951 ... 216
Stewart, Byron L., February 5, 1951 ... 282
Tucker, James H., February 18, 1951 ... 282
Turkus, Edward N., April 19, 1951 ... 445
Ullmann, Henry J., October 15, 1950 ... 50
Weinberger, Joseph, December 31, 1950 ... 216
Yengst, Henry L., February 27, 1951 ... 404

v. 74 1951
California medicine
37976